TAPR HF Special Interest Group Archive, January 1999 through May 2003

January 1999 through May 2003

TAPR's forum for experimentation and development of HF digital communications, including modulation, coding, protocols, DSP platforms, modems, propagation, and on-air testing.

This volume contains 50 original monthly files and 897 messages, arranged chronologically. The PDF is a readable access copy: MIME transfer encodings are decoded, HTML bodies are converted to plain text, and non-text attachments are represented by descriptive notes. The raw source text is supplied separately with the Internet Archive item.

Month	Messages	Original source file
1999-01	38	hfsig.9901
1999-02	16	hfsig.9902
1999-03	42	hfsig.9903
1999-04	10	hfsig.9904
1999-05	7	hfsig.9905
1999-06	8	hfsig.9906
1999-07	13	hfsig.9907
1999-08	15	hfsig.9908
1999-09	12	hfsig.9909
1999-10	22	hfsig.9910
1999-11	55	hfsig.9911
1999-12	9	hfsig.9912
2000-01	13	hfsig.0001
2000-02	37	hfsig.0002
2000-03	6	hfsig.0003
2000-04	8	hfsig.0004
2000-05	41	hfsig.0005
2000-06	88	hfsig.0006
2000-07	43	hfsig.0007
2000-08	25	hfsig.0008
2000-09	20	hfsig.0009
2000-10	23	hfsig.0010
2000-11	11	hfsig.0011
2000-12	6	hfsig.0012
2001-01	16	hfsig.0101
2001-02	5	hfsig.0102
2001-03	15	hfsig.0103
2001-04	1	hfsig.0104
2001-05	4	hfsig.0105

Month	Messages	Original source file
2001-06	29	hfsig.0106
2001-07	29	hfsig.0107
2001-08	5	hfsig.0108
2001-09	7	hfsig.0109
2002-01	8	hfsig.0201
2002-02	35	hfsig.0202
2002-03	9	hfsig.0203
2002-04	15	hfsig.0204
2002-05	9	hfsig.0205
2002-06	57	hfsig.0206
2002-07	16	hfsig.0207
2002-08	5	hfsig.0208
2002-09	10	hfsig.0209
2002-10	2	hfsig.0210
2002-11	4	hfsig.0211
2002-12	9	hfsig.0212
2003-01	6	hfsig.0301
2003-02	12	hfsig.0302
2003-03	3	hfsig.0303
2003-04	3	hfsig.0304
2003-05	15	hfsig.0305

January 1999

Original source file: hfsig.9901
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9901

1. Re: [HFSIG:3010] Re: PSK31 Calling Freq

From: "Louis Cobet" <louis_cobet@email.msn.com>
Date: Fri, 1 Jan 1999 09:34:01 -0800
To: <hfsig@tapr.org>
Message-ID: <006001be35ac$ed989740$730c2599@hp-customer>
Rendered body type: text/plain

To All;

The release of the PSK31 program for soundboards means that more hams can
use the mode. I would like to suggest that we recommend a list of calling
frequencies and alternates for every band from 160 meters to 2 meters.

I would suggest they all be in the General class sections of the bands
except on 10 meters where there should be at least one frequency accessible
to Novices and Tech Plus licensees.

It maybe the Europeans have already done this job. We should consult with
them.

Louis Cobet, K6MDH

louis_cobet@email.msn.com

2. Re: [HFSIG:3016] ESDI disk, Quiktrak Y2K, Timewave DSP2232 source

From: whsander@erols.com (Wayne Sanderson)
Date: Fri, 1 Jan 1999 12:55:28 -0500 (EST)
To: hfsig@tapr.org (hfsig)
Message-ID: <199901011755.MAA21931@smtp3.erols.com>
Rendered body type: text/plain

Hi Tech Component Distributors had ESDI drives, cards and cables listed for
sale on their web site last time I looked. You might luck out and get a cable.
I believe the URL is:
http://www.hi-techinc.com

Robert McGwier writes:
> I believe I can do myself but would NOT like to
> do, that is, plug the Ultrastor
> ESDI card into an available ISA slot and then
> copy off what
> is needed one slow floppy at a time. I don't
> have the cables to
> connect the ESDI drive to the card. I don't have
> a tape back up
> as I keep copies of everything, elsewhere.

3. Re: [HFSIG:3018] Re: ESDI disk, Quiktrak Y2K, Timewave DSP2232 source

From: "Harry L. Styron" <hlstyron@wcrklaw.com>
Date: Sat, 02 Jan 1999 05:35:14 -0800
To: hfsig@tapr.org
Message-ID: <368E2092.9BE40BB5@wcrklaw.com>
Rendered body type: text/plain

ESDI drives use the same cabling as do MFM; if they are configured to be
drive 2 then they can be stacked with a twisted cable. They do,
however, require the
installation of terminating resistors on the last drive in the line.
--
 ----
o Harry L. Styron, Attorney at Law   o
o Tel: 925-932-4300 Fax: 925-944-0591 o
o "The devil is in the details."   o
 ----

4. Quiktrak, DSP2232, Y2K, ESDI continued

From: Robert McGwier <rwmcgwier@home.com>
Date: Sun, 03 Jan 1999 08:44:27 -0500
To: amsat-bb@amsat.org, dsp@tapr.org, hfsig@tapr.org
Message-ID: <368F743B.F407F3DE@home.com>
Rendered body type: text/plain

Thanks to everyone who replied. I have the perfect offer of help
from NJ1H. I really appreciate all the offers of help and well
wishes.

Happy New Year!
Bob, N4HY

5. Re: [HFSIG:3020] Quiktrak, DSP2232, Y2K, ESDI continued

From: "Harold H. Fink" <hhfink@bellatlantic.net>
Date: Sun, 03 Jan 1999 16:04:05 -0500
To: hfsig@tapr.org
Message-ID: <368FDB45.CF2314D1@bellatlantic.net>
Rendered body type: text/plain

Robert McGwier wrote:
>
> Thanks to everyone who replied. I have the perfect offer of help
> from NJ1H. I really appreciate all the offers of help and well
> wishes.
>
> Happy New Year!
> Bob, N4HY

And a very happy New Year to you, Dr. Bob!

Harold Fink
WA4KBB

6. Re: [HFSIG:3020] Quiktrak, DSP2232, Y2K, ESDI continued

From: Dennis Cahill <dcahill@adinet.com.uy>
Date: Tue, 04 Jan 2000 13:09:03 -0300
To: hfsig@tapr.org
Message-ID: <3.0.5.32.20000104130903.007a31e0@adinet.com.uy>
Rendered body type: text/plain

At 07:53 3/01/99 -0600, you wrote:
>Thanks to everyone who replied. I have the perfect offer of help
>from NJ1H. I really appreciate all the offers of help and well
>wishes.
>
>Happy New Year!
>Bob, N4HY
>
>
>

Bob:

Could this mean that we dsp2232 source code will be available as you
suggested some time back?

73´3 and a Happy new year de CX7AP, Dennis.

7. Re: [HFSIG:3021] Re: Quiktrak, DSP2232, Y2K, ESDI continued

From: Robert McGwier <rwmcgwier@home.com>
Date: Mon, 04 Jan 1999 19:02:35 -0500
To: hfsig@tapr.org
Message-ID: <3691569B.644BE059@home.com>
Rendered body type: text/plain

I didn't know you were a ham Harold!

Happy New Year
Bob

"Harold H. Fink" wrote:
>
> Robert McGwier wrote:
> >
> > Thanks to everyone who replied. I have the perfect offer of help
> > from NJ1H. I really appreciate all the offers of help and well
> > wishes.
> >
> > Happy New Year!
> > Bob, N4HY
>
> And a very happy New Year to you, Dr. Bob!

>
> Harold Fink
> WA4KBB

8. Viterbi Decoder (Simulations)

From: The Whiting Household <rwhiting@winternet.com>
Date: Mon, 04 Jan 1999 18:37:29 -0600
To: hfsig@tapr.org
Message-ID: <3.0.5.32.19990104183729.007ce570@mail.winternet.com>
Rendered body type: text/plain

FEC aficionados will want to read the article on Viterbi decoder simulations in the latest edition of Communication Systems Design (by Hardin and Gardner, Vol. 5, No. 1, Jan. '99, p. 52-53, 56-58).

Cheers/ Rick W0TN

9. Invitation to join Hellschreiber@onelist.com

From: as149@detroit.freenet.org
Date: Tue, 5 Jan 1999 15:57:59 -0600 (CST)
Message-ID: <199901052157.PAA29626@tapr.org>
Rendered body type: text/plain

Hello,

I would like to invite you to join the Hellschreiber mailing list.

The description of this mailing list is:

A mailing list dedicated to human readable radio text transmission techniques. These techniques use uncoded transmissions and involve no interpretation of the received signal by the receiving equipment; instead the human eye and brain are used to provide advanced character recognition. Hellschreiber techniques include Feld-Hell (on-off keyed) and MT-Hell (time domain). These modes have a growing following among Amateur Radio HF operators, as they have remarkable noise and interference rejection capability, and yet the signals are easy to generate and simple to use.

You can join this list by going to the following web page:

     http://www.onelist.com/subscribe.cgi/Hellschreiber

If you do not wish to join this list, please ignore this message.

Thanks,

as149@detroit.freenet.org
List Owner

10. New Version of PSK31 for SoundBlaster on Windows

From: Eduardo Jacob <edu@kender.es>
Date: Wed, 06 Jan 1999 00:06:34 -0100
To: psk31@bipt106.bi.ehu.es
Message-ID: <3.0.5.32.19990106000634.036d46e0@kender.es>
Rendered body type: text/plain

In Spain the night of January 5th the kids go to bed hoping that the Three Wise Men will bring them many presents... Although we are not any more kids, you will find the last version of PSK31 for Windows and SoundBlaster by Peter G3PLX with Waterfall display and new Help material. As usual available at:

ftp://det.bi.ehu.es/pub/ham/psk31/psk31sbw.zip

As usual newcomers can find information about PSK31 at

http://aintel.bi.ehu.es/psk31.html

Regards

Eduardo/EA2BAJ

Regards

11. New Version of PSK31 (1.03) for SoundBlaster on Windows

From: Eduardo Jacob <edu@kender.es>
Date: Sat, 09 Jan 1999 22:50:32 -0100
To: psk31@bipt106.bi.ehu.es
Message-ID: <3.0.5.32.19990109225032.0088b320@kender.es>
Rendered body type: text/plain

You can have the last version of PSK31 for Windows and SoundBlaster by
Peter G3PLX with a bigger Waterfall display, new Help material and some
buglets fixed. As usual available at:

        ftp://det.bi.ehu.es/pub/ham/psk31/p31sb103.zip

        As usual newcomers can find information about PSK31 at

        http://aintel.bi.ehu.es/psk31.html

        Regards

        Eduardo/EA2BAJ

        Regards

12. Re: [HFSIG:3027] New Version of PSK31 (1.03) for SoundBlaster on Windows

From: fractional@willmar.com
Date: Sat, 28 Nov 1998 13:07:26 -0600
To: hfsig@tapr.org
Message-ID: <366049EE.3E77EEBB@willmar.com>
Rendered body type: text/plain

Might work, just the opposit of turkey feathers. Let me know how it
works.

Eduardo Jacob wrote:

> You can have the last version of PSK31 for Windows and SoundBlaster by
> Peter G3PLX with a bigger Waterfall display, new Help material and some
> buglets fixed. As usual available at:
>
>   ftp://det.bi.ehu.es/pub/ham/psk31/p31sb103.zip
>
>   As usual newcomers can find information about PSK31 at
>
>   http://aintel.bi.ehu.es/psk31.html
>
>   Regards
>
>   Eduardo/EA2BAJ
>
>   Regards

13. Amt-3 (Amtor/Rtty controller) Firmware and Terminal software

From: "Paulus" <paulstra@xs4all.nl>
Date: Mon, 11 Jan 1999 20:36:05 +0100
To: <hfsig@tapr.org>
Message-ID: <000301be3d99$a2501340$f2806dc2@machientje>
Rendered body type: text/plain

Hello all,

Recently I got an AMT-3 Amtor/rtty controller and allthough produced around
1989, it still works fine especiallay on Amtor.

The Firmware of the Amt-3 is version 08 from ICS.
The software , terminal program even allowing Dos 2.0 ! (hi) is version 1.1
also from ICS (for ibm-pc).

I wonder if someone has additional information about both the Firmware
or/and software for this AMT-3 modem.

Tks and 73 de Paul, PA0OCD
paulstra@xs4all.nl

14. New mail reflectors

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Tue, 12 Jan 1999 19:19:14 +1300
To: <hfsig@tapr.org>
Message-ID: <000401be3df4$98fd3c40$a7e46dcb@coombedn>
Rendered body type: text/plain

Hi,
Two new email reflectors have been set up for those interested in these modes:

Hellschreiber@onelist.com is for Feld-Hell and MT-Hell folks (Hellraisers!)

MT63@onelist.com is for those interested in the latest high performance HF mode - MT63

You can subscribe to these reflectors by visiting http://www.ONElist.com, or by sending email to Hellschreiber-subscribe@onelist.com or MT63-subscribe@onelist.com. Both lists are moderated and archived, so there is no risk of any SPAM, and if you prefer, you can remain completely anonymous and simply read the messages in digest form, but you MUST REGISTER to use the information. You won't receive any unsolicited mail.

73,

Murray ZL1BPU

15. EVM Users' Call Book.

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Tue, 12 Jan 1999 19:26:11 +1300
To: <hfsig@tapr.org>
Message-ID: <000501be3df4$99b45740$a7e46dcb@coombedn>
Rendered body type: text/plain

Hi,
I am trying to compile an Amateur Radio EVM Users' Call Book. The purpose is to make it easier to:

* Swap stories and help each other

* Better interaction between software developers and testers

* Set up skeds for the lesser used modes

* Make for easier dissemination of bug fixes and new radio software.

If you wish to be included on the list, or know someone else who should be on the list, please send me an email, or leave a note on the MT63 Reflector, MT63@onelist.com.

Please indicate if you wish your email address to be placed on the public list - otherwise it will not. If you are interested in developing software for the EVM, you might indicate that too.

The present list, such as it is, can be seen on the MT63 web site:

http://members.xoom.com/ZL1BPU/MT63/MT63.html

Send any corrections to me.

73,
Murray ZL1BPU

16. RE: [HFSIG:3031] EVM Users' Call Book.

From: "Roger Rehr" <rrehr@epix.net>
Date: Tue, 12 Jan 1999 22:58:23 -0500
To: <hfsig@tapr.org>
Message-ID: <199901130405.XAA19518@bean.epix.net>
Rendered body type: text/plain

Im a user. OK to list my email...

73 from
Roger Rehr W3SZ ex-AA3QK ex-WA3JYM
mailto:rrehr@epix.net FN20ah
http://www.epix.net/~rrehr
2 Merrymount Road, Reading, PA 19609
610.670.8687

> -----Original Message-----
> From: hfsig@tapr.org [mailto:hfsig@tapr.org]On Behalf Of Coombe Down
> Sent: Tuesday, January 12, 1999 1:36 AM
> To: hfsig@tapr.org
> Subject: [HFSIG:3031] EVM Users' Call Book.
>

>
> Hi,
> I am trying to compile an Amateur Radio EVM Users' Call Book.
> The purpose is
> to make it easier to:
>
> * Swap stories and help each other
>
> * Better interaction between software developers and testers
>
> * Set up skeds for the lesser used modes
>
> * Make for easier dissemination of bug fixes and new radio software.
>
> If you wish to be included on the list, or know someone else
> who should be
> on the list, please send me an email, or leave a note on the
> MT63 Reflector,
> MT63@onelist.com.
>
> Please indicate if you wish your email address to be placed
> on the public
> list - otherwise it will not. If you are interested in
> developing software
> for the EVM, you might indicate that too.
>
> The present list, such as it is, can be seen on the MT63 web site:
>
http://members.xoom.com/ZL1BPU/MT63/MT63.html

Send any corrections to me.

73,
Murray ZL1BPU

17. Article about PSK31 by Peter Martinez G3PLX

From: Eduardo Jacob <edu@kender.es>
Date: Wed, 13 Jan 1999 22:54:26 -0100
To: psk31@bipt106.bi.ehu.es
Message-ID: <3.0.5.32.19990113225426.00801540@kender.es>
Rendered body type: text/plain

I have put in the PSK31 Homepage http://aintel.bi.ehu.es/psk31.html an
article by Peter Martinez G3PLX about PSK31. The article has appeared in
the November and December RGSB's Radcom Magazine and explains the origin,
implementation and details of both BPSK and QPSK modes. It's also available
directly from the URL:

        http://det.bi.ehu.es/~jtpjatae/pdf/p31g3plx.pdf

        Regards

        Eduardo/EA2BAJ

18. IZ8BLY Feld Hell for windows - Hellschreiber software for soundcards (http://ww

From: "Paulus" <paulstra@xs4all.nl>
Date: Sun, 17 Jan 1999 19:31:39 +0100
To: <bpsk@qth.net>, <Hellschreiber@onelist.com>, <hfsig@tapr.org>
Message-ID: <000901be4247$a0382d60$4c806dc2@machientje>
Rendered body type: text/plain

Hello all,

Have an look at Nino's Hellschreiber website and download his Windows
Soundcard programm for this nice and fb mode.
No need anymore to build advanced modems to join the party.
Feldhell is very good suited to combat noise and at the 122,5 baud speed
about 150 hz Wide. O yes it is an graphical mode.
With the greylevels in the Windowsprogram it is also possible to see 2
Feldhell qso,s at the same time hi.

When you are there on Nino,s website, pse have an look at his "first"
Feldhell Qso pages to get an impression.
There is also an weblink to the "fuzzy" Hell pages of Murray.

Have fun

73 de Paul, PA0OCD

http://www.freeweb.org/varie/ninopo/radio/Hell/index.htm
[Attachment: IZ8BLY Feld Hell for windows - Hellschreiber software for soundcards.url; application/octet-stream; 108 bytes]

19. New Feldhell Windows Soundcard prgr.

From: "Paulus" <paulstra@xs4all.nl>
Date: Sun, 17 Jan 1999 20:51:12 +0100
To: <bpsk@qth.net>, <hfsig@tapr.org>, <Hellschreiber@onelist.com>
Message-ID: <000b01be4252$bd3b8aa0$e8886dc2@machientje>
Rendered body type: text/plain

Hello all,

The text in the "subject" was an bit too long, so you could possibly not
read the Website hi.

Here it is again

73 de Paul, pa0ocd

Nino's IZ8BLY Hellschreiber website:

http://www.freeweb.org/varie/ninopo/

20. PK-232

From: k5cnf1@juno.com (Richard B Morrow)
Date: Sun, 17 Jan 1999 23:40:55 -0600
To: hfsig@tapr.org
Message-ID: <19990117.235521.3614.2.k5cnf1@juno.com>
Rendered body type: text/plain

Anyone have a program for pactor, either version that could be used with
a PK-232??? I am getting one and do not know what is out there that will
allow the 232 to do all sorts of weird things aside for what it was
intended to do..

73, Richard K5CNF

_____
You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at http://www.juno.com/getjuno.html
or call Juno at (800) 654-JUNO [654-5866]

21. kpc-3 plus

From: mmonce@iname.com
Date: Mon, 18 Jan 1999 03:18:22 -0500 (EST)
To: hfsig@tapr.org
Message-ID: <9901180318224W.17224@weba3.iname.net>
Rendered body type: text/plain

Hello all,

Anyone have a program for a kpc-3 plus tnc ,so i can send cw or rtty or amtor on hf? Im looking for a
real good program that will work for a kpc-3 plus tnc.

73 de Merl,N4BFT

Get free personalized email at http://www.iname.com

22. Re: [HFSIG:3037] kpc-3 plus

From: malberts@ncs.com.na (Mike Alberts)
Date: Mon, 18 Jan 1999 15:54:12 +0200
To: hfsig@tapr.org
Message-ID: <36A33D04.6CA7B9BC@ncs.com.na>
Rendered body type: text/plain

mmonce@iname.com wrote:

> Hello all,
>
> Anyone have a program for a kpc-3 plus tnc ,so i can send cw or rtty or amtor on hf? Im looking for a
real good program that will work for a kpc-3 plus tnc.
>
> 73 de Merl,N4BFT
>
> ----------

> Get free personalized email at http://www.iname.com

Just a reply,,,I wish I had a TNC...???

V51MA
Mike Namibia

23. MIL-STD-188-110A

From: Halvor Liland <lil@fs.siemens.no>
Date: Tue, 19 Jan 1999 12:03:10 +0100
To: hfsig@tapr.org
Message-ID: <199901191103.MAA24788@FSk3.fs.siemens>
Rendered body type: text/plain

I am looking at implemention of MIL-STD-188-110A and STANAG 4285, and an
answer to following questions.

- Required processing power (MIPS)
- A/D and D/A converter speed and accuracy (8-bit, 12-bit or 16-bit).

73 LA7BO Halvor

24. Re: [HFSIG:3039] MIL-STD-188-110A

From: Anthony Martin <anthony.n.martin@marconicomms.com>
Date: Tue, 19 Jan 1999 12:43:08 +0000
To: Halvor Liland <lil@fs.siemens.no>, hfsig@tapr.org
Message-ID: <36A47DDC.4E50@marconicomms.com>
Rendered body type: text/plain

Halvor Liland wrote:
>
> I am looking at implemention of MIL-STD-188-110A and STANAG 4285, and an
> answer to following questions.
>
> - Required processing power (MIPS)

Budget on a DSP for 50 Mflops or 50 Mips.
This is the typical processing power in a Harris RF-5710 or
Marconi ARM-9401.

The actual requirement depends on your choice of equaliser
algorithm. DFE is a lot less than DDE. The DDE equaliser
will need 20 Mflops; DFE is around 2 Mflops. DDE performs
better on poor channels.

> - A/D and D/A converter speed and accuracy (8-bit, 12-bit or 16-bit).

12 or 14 bit, preferably 14 for good receive dynamic range.
8kHz or 9.6kHz sample rate.
Suggest Texas TLC320AC02 14 bit codec which integrates all
the filters too. Or a high-spec PC soundcard?

The number of bits accuracy required in the calculations
may also be an important factor if choosing a 16 or 24 bit
fixed-point platform. I have a gut feeling that 16bits isn't
enough for the equaliser. Given a free hand, the economics
are such that floating-point is the obvious choice.

>
> 73 LA7BO Halvor

Halvor,

Will you be doing a public domain implementation or a commercial
implementation? Will you work alone on the project, or are you
looking for others? What sort of timescales are you thinking about?

good luck with your modem, Ant

--
Recovering from `changed corporate identity syndrome'
_____

A.N.Martin anthony.n.martin@marconicomms.com www.marconicomms.com
Snr. Development Engineer Tel. 01245 353221 x4995
Military Products Engineering Fax. 01245 275993
Marconi Communications UK, Marconi House, New St. Chelmsford, UK
_____

25. Re: [HFSIG:3040] Re: MIL-STD-188-110A

From: Alexander Kurpiers <kurpiers@zeus.uet.e-technik.tu-darmstadt.de>
Date: Tue, 19 Jan 1999 13:54:55 +0100
To: hfsig@tapr.org
Message-ID: <36A4809F.C065D4F5@zeus.uet.e-technik.tu-darmstadt.de>
Rendered body type: text/plain

Anthony Martin wrote:

> algorithm. DFE is a lot less than DDE. The DDE equaliser
> will need 20 Mflops; DFE is around 2 Mflops. DDE performs
> better on poor channels.

This may be a silly question, but what is a DDE?

And what about MLSE? I know, this is very hard to do, but with reduced
state
it might be working. I have something in mind, that there was a Harris
patent
involved.

73´ Alexander

--
------------------------------+--------------------------------------
| Alexander F. Kurpiers |
|
| Institut fuer Uebertragungs- | Voice: +49-6151-162369
|
| technik u. Elektroakustik | Fax : +49-6151-165545
|
| Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
|
| D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0zdf.#rpl.deu.eu
|
------------------------------+--------------------------------------

26. Re: [HFSIG:3041] Re: MIL-STD-188-110A

From: Anthony Martin <anthony.n.martin@marconicomms.com>
Date: Tue, 19 Jan 1999 21:53:54 +0000
To: hfsig@tapr.org
Message-ID: <36A4FEF2.259C@marconicomms.com>
Rendered body type: text/plain

Alexander Kurpiers wrote:
>
> Anthony Martin wrote:
>
> > algorithm. DFE is a lot less than DDE. The DDE equaliser
> > will need 20 Mflops; DFE is around 2 Mflops. DDE performs
> > better on poor channels.
>
> This may be a silly question, but what is a DDE?
>
DDE is Data Directed Equalisation. If you read the STANAG 4285
the algorithm is described therein.

It involves use of regular fixed transmitted data patterns to
estimate the channel characteristics. The filter so derived is
used to correct the traffic data symbols. Most of the processing
is due to the size of the matrix inverse that must be solved
to derive the channel filter.

> And what about MLSE? I know, this is very hard to do, but with reduced
> state
> it might be working.

MLSE = Maximum Likelihood Sequence Estimation? You jest!

> I have something in mind, that there was a Harris
> patent
> involved.

You mean the DDE one, US pat 4365338, June 1989 ?

>
> 73´ Alexander
>

Ant

--
Recovering from `changed corporate identity syndrome'
_____

A.N.Martin anthony.n.martin@marconicomms.com www.marconicomms.com
Snr. Development Engineer Tel. 01245 353221 x4995
Military Products Engineering Fax. 01245 275993
Marconi Communications UK, Marconi House, New St. Chelmsford, UK
_____

27. Re: [HFSIG:3041] Re: MIL-STD-188-110A

From: Robert McGwier <rwmcgwier@home.com>
Date: Tue, 19 Jan 1999 21:06:02 -0500
To: hfsig@tapr.org
Message-ID: <36A53A0A.19665033@home.com>
Rendered body type: text/plain

DESIRED directed equalizer, taking a desired response to the input
and modifying the equalization filter to achieve it. It is how
the 2400 baud HF serial modems work, thus given adequate demonstration
to the statement that it works better. This extra performance is
at the penalty of having to regularly insert sequences of known
symbols in the unknown data you are transmitting. The known symbols
are used to give you a desired directed equalizer. There are then
various schemes for using the unknown data including one "patented"
by Harris in their original papers on the serial modem.

Alexander Kurpiers wrote:
>
> Anthony Martin wrote:
>
> > algorithm. DFE is a lot less than DDE. The DDE equaliser
> > will need 20 Mflops; DFE is around 2 Mflops. DDE performs
> > better on poor channels.
>
> This may be a silly question, but what is a DDE?
>
> And what about MLSE? I know, this is very hard to do, but with reduced
> state
> it might be working. I have something in mind, that there was a Harris
> patent
> involved.
>
> 73´ Alexander
>
> --
> *-------------------------------+---------------------------------------*
> | Alexander F. Kurpiers |
> |
> | Institut fuer Uebertragungs- | Voice: +49-6151-162369
> |
> | technik u. Elektroakustik | Fax : +49-6151-165545
> |
> | Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
> |
> | D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0zdf.#rpl.deu.eu
> |
> *-------------------------------+---------------------------------------*

28. Re: [HFSIG:3042] Re: MIL-STD-188-110A

From: Alexander Kurpiers <kurpiers@zeus.uet.e-technik.tu-darmstadt.de>
Date: Wed, 20 Jan 1999 09:14:16 +0100
To: hfsig@tapr.org
Message-ID: <36A59058.FF63C6FD@zeus.uet.e-technik.tu-darmstadt.de>
Rendered body type: text/plain

Anthony Martin wrote:

> > And what about MLSE? I know, this is very hard to do, but with reduced
> > state
> > it might be working.
>
> MLSE = Maximum Likelihood Sequence Estimation? You jest!
>
> > I have something in mind, that there was a Harris
> > patent

> > involved.
>
> You mean the DDE one, US pat 4365338, June 1989 ?

Sorry, maybe I should make clear what I ment... (I know what MLSE is).
If I would use MLSE than I could implement the seriel tone modes without
having to use the Harris patent?
This is what the GSM system does to equalize the mobile channel. Of
course the HF channel is worse, but anyway...

73´ Alexander

--
------------------------------+--------------------------------------
| Alexander F. Kurpiers |
|
| Institut fuer Uebertragungs- | Voice: +49-6151-162369
|
| technik u. Elektroakustik | Fax : +49-6151-165545
|
| Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
|
| D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0zdf.#rpl.deu.eu
|
------------------------------+--------------------------------------

29. Re: [HFSIG:3044] Re: MIL-STD-188-110A

From: Robert McGwier <rwmcgwier@home.com>
Date: Wed, 20 Jan 1999 07:48:23 -0500
To: hfsig@tapr.org
Message-ID: <36A5D097.ACDC4463@home.com>
Rendered body type: text/plain

Howdy:

If you use a reduced state, which includes the known symbols on
either side of the unknown symbols as proposed in MIL-STD-188-110A,
you can use the EM algorithm to do the maximum likelihood set of
unknown symbols and at the same time, GUARANTEE an improvement
in the equalizer coefficients (Baum, Petrie, Soules, and Weiss
proved this in the their first paper about the EM algorithm). This
in fact collapses the huge state space which is needed in normal cases
since it completely nails down the beginning and ending state/states.
This is in fact an excellent idea and is NOT what Harris has implemented
as included in their patent. They have a gross approximation to it
but not it. They most certainly do <not> implement the EM algorithm.
Using the EM algorithm, you are assured that given the known symbols,
and the observations (signal samples), and given a set of equalizer
coefficients you will produce those set of symbols that at each decision
time, produces the most likely symbol at that time given the observations (past
and future) and at the same time, a road map
for producing new coefficients. I don't expect you to be able to
derive the "Q" function (see paper above or read papers on the EM
algorithm) but their is an iterative procedure for improving them
and you are guaranteed by theorems which apply in this case that you
will improve the probability of the observations given your new tap
weights.
Furthermore, if you preserve the "soft decision output" of the EM
algorithm, you will have a completely adaptive metric to feed to
the Viterbi decoder algorithm which needs to follow. Damn! I like
this better and better and wish I had asked the right questions.
You may not have known about EM, but you did ask the right questions.

Sorry to drop this floater into the bowl and run, but I will be away
from my computer for the next 3 weeks. I'll re-enter the conversation when I
get back.

Bob

Alexander Kurpiers wrote:
>
> Anthony Martin wrote:
>
> > > And what about MLSE? I know, this is very hard to do, but with reduced
> > > state

> > > it might be working.
> >
> > MLSE = Maximum Likelihood Sequence Estimation? You jest!
> >
> > > I have something in mind, that there was a Harris
> > > patent
> > > involved.
> >
> > You mean the DDE one, US pat 4365338, June 1989 ?
>
> Sorry, maybe I should make clear what I ment... (I know what MLSE is).
> If I would use MLSE than I could implement the seriel tone modes without
> having to use the Harris patent?
> This is what the GSM system does to equalize the mobile channel. Of
> course the HF channel is worse, but anyway...
>
> 73´ Alexander
>
> --
> *-------------------------------+---------------------------------------*
> | Alexander F. Kurpiers |
> |
> | Institut fuer Uebertragungs- | Voice: +49-6151-162369
> |
> | technik u. Elektroakustik | Fax : +49-6151-165545
> |
> | Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
> |
> | D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0zdf.#rpl.deu.eu
> |
> *-------------------------------+---------------------------------------*

30. Re: [HFSIG:3043] Re: MIL-STD-188-110A

From: Anthony Martin <anthony.n.martin@marconicomms.com>
Date: Wed, 20 Jan 1999 12:40:45 +0000
To: hfsig@tapr.org
Message-ID: <36A5CECD.6524@marconicomms.com>
Rendered body type: text/plain

Robert McGwier wrote:
>
> DESIRED directed equalizer, taking a desired response to the input
> and modifying the equalization filter to achieve it. It is how
> the 2400 baud HF serial modems work, thus given adequate demonstration
> to the statement that it works better. This extra performance is
> at the penalty of having to regularly insert sequences of known
> symbols in the unknown data you are transmitting. The known symbols
> are used to give you a desired directed equalizer. There are then
> various schemes for using the unknown data including one "patented"
> by Harris in their original papers on the serial modem.
>
The Harris modem spec sheet says `Data Directed Equalisation'
and so does STANAG-4285.

Some modem suppliers eg. General Atronics Corporation, do use DFE.
DFE says nothing about how the tap weights are updated. A DFE
must also make use of the fixed data to calculate a channel
estimate. The usual gradient / LMS methods aren't fast enough.

There are figures in STANAG-4285 for the relative performance
of a DFE and DDE approach, the computational load of each,
and the algorithms that were used. But I wouldn't assume that
better algorithms and solutions don't exist.

US patent 5790598 proposes the use of Cholesky decomposition
instead of Levinson-Durbin recursion to reduce the computation
in solving the matrices in the DDE algorithm. It also provides
increased multipath capability, the old harris algorithm has
a very hard upper limit on multipath.

The USPTO now has a neat full-text on-line database. Try it.

I think the state of the art and of mathematics has moved on
a fair bit in the 10 years since the first serial tone modems...

Ant

I'd still like to hear something from Halvor Liland about
the nature of his modem project. Please?

--
Recovering from `changed corporate identity syndrome'
_____

A.N.Martin   anthony.n.martin@marconicomms.com   www.marconicomms.com
Snr. Development Engineer   Tel.   01245 353221 x4995
Military Products Engineering   Fax.   01245 275993
Marconi Communications UK, Marconi House, New St. Chelmsford, UK
_____

31. RE: [HFSIG:3046] HFSIG digest 637

From: rescuemedic@netscape.net
Date: 22 Jan 99 10:53:44 GMT
To: hfsig@tapr.org
Message-ID: <19990122105344.13563.qmail@apps02.dev.usa.net>
Rendered body type: text/plain

I have received your e-mail in one of the e-mail accounts. I will reply to
your e-mail as soon as possible.
If this is very important please consider paging me.
If this is spam or junk mail, please consider this notification to remove my
address from your e-mail list.

Sincerely,
Darrell

_____
More than just email--Get your FREE Netscape WebMail account today at
http://home.netscape.com/netcenter/mail

32. hello

From: a3eon15000@aol.com
Date: Fri, 22 Jan 1999 23:39:27 -0200
To: run78@aol.com
Message-ID: <9901230139.AA21695@ita.cta.br>
Rendered body type: text/plain

UNIVERSITY DEGREE PROGRAMS

Increase your personal prestige and money
earning power through an advanced
university degree.

Eminent, non-accredited universities will
award you a degree for only $200.

Degree granted based on your present
knowledge and experience. No further
effort necessary on your part.

Just a short phone call is all that is required for a
BA, MA, MBA, or PhD diploma in the field of your
choice.

For details, call 602-230-4252

33. hello

From: a3eon15000@aol.com
Date: Mon, 25 Jan 1999 02:23:48 -0200
To: run78@aol.com
Message-ID: <9901250423.AA45686@ita.cta.br>
Rendered body type: text/plain

UNIVERSITY DEGREE PROGRAMS

Increase your personal prestige and money
earning power through an advanced
university degree.

Eminent, non-accredited universities will
award you a degree for only $200.

Degree granted based on your present
knowledge and experience. No further
effort necessary on your part.

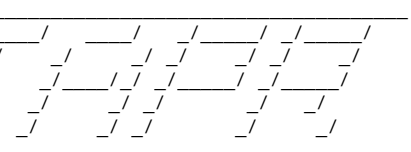
Just a short phone call is all that is required for a
BA, MA, MBA, or PhD diploma in the field of your
choice.

For details, call 602-230-4252

34. HF SIG Welcome Message

From: Lyris <lyris@lists.tapr.org>
Date: Sun, 24 Jan 1999 23:25:00 -0600
To: lyris.hfsig@tapr.org
Message-ID: <LYR4070-425-1999.01.24-23.25.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
**********************************************************************
*                 PLEASE SAVE THIS WELCOME MESSAGE!                  *
**********************************************************************
```



Welcome to TAPR HF Special Interest Group.

Objectives for the HFSIG

The purpose of the HF SIG is to serve as a forum for those involved in
experimenting, and developing digital applications for HF.

Background

HF offers unique challenges and rewarding opportunities for amateur radio.
It allows for both short and long distance digital communications without
the involvement of specialized terrestrial or space-based equipment such
as repeaters, or satellite transponders. It allows for one-to-one
(keyboard-to-keyboard) as well as many-to-one (networking), modes of
operation. These are quite different in philosophy and functional needs.

The amateur bands have seen a dramatic increase in diversity in technology
as well as increased activity in the use of digital modes. This is due
mostly to the availability of TNC's and application of personal computers.
Basic technology, however, has not changed much since the 60's and is in
great need for innovation to meet future challenges.

Development of future technology for HF digital requires experimentation
with several topics on communications such as:

1. Bandwidth-efficient modulation schemes, i.e. for
   increased robustness, speed, and usability. These include
   various forms of m-ary FSK, m-ary PSK, or QAM using single
   or multiple carriers. However, other technologies such as
   spread-spectrum communications also need to be explored.

2. Application of coding theory for error detection and
   correction for increased reliability. This will require the
   use of block and/or convolutional codes.

3. Protocols to suit new proposed modulation and coding
   schemes. Various forms of ARQ and FEC are possible. The
   possibilities for half and full duplex modes need to be
   explored.

In addition, development platforms for such experimental work will most
certainly receive attention.

4. Programmable DSP platforms. Hardware, and software for
   application development.

5. Host-based software. Typically this include low-level
   I/O, CUA/SAA compliant user-interface development, but also
   a user-contributed software repository for commonly-used
   algorithms such as frame synchronization, channel
   equalization, scrambler polynomials, fast CRC calculations,
   various error-detection/correction algorithms such as Golay

(24,12), Reed-Solomon, and trellis/Viterbi codes for example.

Getting involved

We require talents representing a wide range of topics such as mathematics (coding theory, signals and transforms), software engineering (algorithm development, real-time OS, low-level I/O, host OS), electrical engineering (analog, digital and RF), digital signal processing (theoretical, hardware and software), etc. However, there also is a similar need for technical writers, beta testers, and project management.

It is unlikely that this type of experimental work will be using any existing TNC hardware. A general-purpose programmable DSP platform, such as the TAPR DSP-93, a DSP-based sound card, or equivalent would be required as well as a fairly fast 386/486 or equivalent host computer for high-level software development.

Besides development efforts, there will be ongoing on-the-air testing to establish how well theoretical ideas are working in practice. It is envisaged that there would be rapid evolution of modulation and protocol development and thus the need for fully programmable hardware.

This introductory note is probably incomplete, however, it presents some perspective and direction for the HFSIG. I would appreciate further suggestions and feedback.

Chairperson: Johan Forrer, KC7WW (kc7ww@tapr.org)

Mechanics of the List

The HFSIG mailing list charter is to provide a forum for the exchange of information about HF Digital Issues.

TAPR is committed to the success of the various SIG lists. All lists have tremendous potential, but TAPR does not want that potential to be lost.

The criteria for appropriate publication are simple: messages should 1) advance the discussion at hand, 2) not perpetuate one of our many Holy Wars (i.e., my OS is bigger than your OS, or "your protocol stinks because"), and 3) avoid personal attacks (FLAMES).

If a messages from individuals over time continue to abuse these standards, they will be removed from the list. If problems are frequent to the point of problems, the mail list can become moderated at the discretion of the SIG chairperson.

Our hope is that SIG members will bear in mind the goals of the SIGs when posting messages, and that very few messages will be considered outside of these standards. If you feel that you must FLAME someone, do it via personal mail or use one of the many other places available to vent spleen. The forums are setup for positive, productive, cooperative discussions.

To post messages to the hfsig list, send email to:

hfsig@lists.tapr.org

To unsubscribe from this mailing list, surf to:

http://www.tapr.org/cgi-bin/lyris.pl?enter=hfsig

or send email to:

lyris@lists.tapr.org

with the following line in the body of the message:

unsub hfsig

The host of this list is:

   Tucson Amateur Packet Radio (TAPR)
   tapr@tapr.org
   http://www.tapr.org
   8987-309 E Tanque Verde Rd. #337, Tucson, AZ 85749-9399,
   phone 940-383-0000, fax 940-566-2544

Just so that you have all the commands neatly contained in one place,
here is just about everything you will need to know. Note that this list
is running on a Lyris server. Please be aware that the commands might be
different from those that you are used to using on other list servers.
(For more information on Lyris, see <http://www.lyris.com/>.)

1. First of all, almost everything that you might need to do on the
   server is most easily and effectively performed via Lyris's Web
   interface at <http://www.tapr.org/cgi-bin/lyris.pl>.

2. In case you do not have Web access, here are some key commands; in all
   cases, the default server address is: <lyris@lists.tapr.org>. Other
   addresses are shown where appropriate. Note that commands may be placed
   in either the subject line or in the body of the message:

```
               SUBSCRIBING:
                 subscribe hfsig your_name
                 join hfsig your_name
                 alternate address: join-hfsig@lists.tapr.org

               UNSUBSCRIBING:
                 unsubscribe hfsig
                 leave hfsig
                 alternate address: leave-hfsig@lists.tapr.org

               SETTING MEMBERSHIP TO DIGEST MODE:
                 set hfsig digest

               SETTING MEMBERSHIP TO INDEX MODE:
                 set hfsig index

               SETTING MEMBERSHIP TO DISCUSSION MODE:
                 set hfsig mail

               TEMPORARILY SUSPENDING MAIL FROM THE LIST:
                 set hfsig nomail

               RESUMING MAIL FROM THE LIST:
         (command depends on your preferred mode)
                 set hfsig mail
                 set hfsig digest
                 set hfsig index

               ACKNOWLEDGMENT:
                 set hfsig ack
                   (sends you a confirmation message when your posts are sent)
                 set hfsig noack
                   (no confirmation message when posts are distributed)

               RECEIVING COPIES OF YOUR OWN POSTS:
                 set hfsig repro
                   (receive copies of your own posts)
                 set hfsig norepro
                   (do not receive copies of your own posts)

               SETTING YOUR PASSWORD:
                 set hfsig pw=mypassword
                   (where "mypassword" is the password you wish to set)

               DETERMINING YOUR MEMBERSHIP SETTINGS:
                 query hfsig

               RETRIEVING THE CURRENT VERSION OF THIS DOCUMENT:
                 get hfsig hello
```

MORE INFORMATION ON LYRIS'S COMMANDS:
  help

POSTING TO THE LIST:
  You must be a subscriber to post messages. Sending
  mail to this address will distribute it to all the members of the
  mailing list: hfsig@lists.tapr.org

3. CHANGING YOUR SETTINGS/ADDRESS VIA THE WEB INTERFACE: To do this, go
   to <http://www.tapr.org/cgi-bin/lyris.pl> and click the link in the
   "Change Your Settings" section. You'll need to enter your e-mail
   address and password (if you chose one) to continue.

   (If you've forgotten your password, you can type in your e-mail address
    in the field at the bottom of the page and click "Get password" to
    request Lyris to e-mail your password to you.)

   At the following page, you can read messages, post a message, adjust
   your settings, or unsubscribe. From the settings page, you can change
   your status (MAIL, DIGEST, INDEX, or NOMAIL), choose whether or not to
   see your own messages, and choose whether or not you want to receive a
   separate acknowledgement via e-mail when one of your messages is posted
   to the list, You can also change your e-mail address if you need to.
   When you change your settings, make sure you click the "Save" button at
   the bottom of the page.

4. ARCHIVES: The hfsig SIG archives are available on the Web, at the
   following URL: <http://www.tapr.org/sigf.html>

5. BOUNCED MAIL: One of the key features of Lyris is its ability to handle
   mail bounces transparently to the list owner; as such, bounced mail
   will be handled primarily by the Lyris list server.

6. POSTS/REPLIES FROM DIGEST USERS: You *must* change the Subject: line
   when replying to a digest; all posts with "hfsig DIGEST" in the
   Subject: line will be rejected by the server (you will receive a
   "rejection letter" when this happens).

35. [hfsig] New EVM version 1.22

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 25 Jan 1999 20:55:30 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-724-1999.01.25-13.56.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new version of Motorola EVM 56002 PSK31 for Windows available
with more help, tunnig aids, a waterfall indicator and a receive overload
indicator. By Peter G3PLX

        As usual:

        available at ftp://det.bi.ehu.es/pub/ham/psk31/p31evw122.zip

        The PSK31 Homepage

        http://aintel.bi.ehu.es/psk31.html

        Regards EA2BAJ

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

36. [hfsig] Re: Please Ignore - T.E.S.T.

From: Richard B Morrow <k5cnf1@juno.com>
Date: Mon, 25 Jan 1999 09:12:12 -0600

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-736-1999.01.25-14.25.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yo are correct, thanks. K5CNF

On Mon, 25 Jan 1999 00:59:11 -0600 "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
writes:
>
>We are working on getting a new mail archives/search engine installed.
>Trying to make sure that mail is routed to the correct files.
>
>Cheers - Greg
>-----
>Greg Jones, WD5IVD   Austin, Texas
>wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd
>
>
>
>---
>You are currently subscribed to hfsig as: K5CNF1@JUNO.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

_____
You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at http://www.juno.com/getjuno.html
or call Juno at (800) 654-JUNO [654-5866]

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

37. [hfsig] New PSK31 for Windows on SB - 1.04

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Wed, 27 Jan 1999 17:39:41 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-1589-1999.01.27-10.40.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Directly from Peter's message...

"The main things to tell the people are that it has a soundcard input
overload indicator in the waterfall, and it sets the sample-rate better and
can handle really way-off-frequency soundcards now"

        As usual:

        available at ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw104.zip

        The PSK31 Homepage

        http://aintel.bi.ehu.es/psk31.html

        Regards EA2BAJ

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

38. [hfsig] this

From: aa0on18485@aol.com
Date: Thu, 28 Jan 1999 02:33:06
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-1800-1999.01.28-05.04.48--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

INTERNATIONAL DRIVER'S LICENSE

Need a new driver's license?

Too many points or other trouble?

Want a license that can never be suspended
or revoked?

Want ID for nightclubs or hotel check-in?

Avoid tickets, fines, and mandatory driver's
education.

Protect your privacy, and hide your identity.

The United Nations gave you the privilege to
drive freely throughout the world! (Convention
on International Road Traffic of September 19,
1949 & World Court Decision, The Hague,
Netherlands, January 21, 1958)

Take advantage of your rights. Order a valid
International Driver's License that can never
be suspended or revoked.

Confidentiality assured.

CALL NOW!!!

1-937-586-9313

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

February 1999

Original source file: hfsig.9902
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9902

1. [hfsig] MT63 Web Site Upgrade

From: murrayg@indcom.co.nz
Date: Fri, 5 Feb 1999 14:41:02 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: hfsig@tapr.org
Message-ID: <LYR4070-3593-1999.02.04-19.41.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi folks,
The MT63 Web site at http://members.xoom.com/ZL1BPU/MT63/MT63.html
has just been upgraded.

It now includes the "official" code for the new MT12 and MT13 modes with CW
ID and increased interleave.

For those that are unaware, MT63 is an awesome HF digital mode, that is just
about indestructible. It works well when other modes give up when the QRM or
QRN are bad (or both!), and survives quite significant jamming. The
throughput is 100 WPM, good or bad conditions alike.

For those (especially in the USA) who are frightened to run advanced digital
modes because they have not been blessed by the ARRL and/or the FCC, gee we
feel sorry for you! MT63 is public domain, and although coded, is not
encrypted.

You need a Motorola 56002 EVM to run MT63. A list of EVM users is available
at the MT63 web site.

73,

Murray ZL1BPU

--- snip ---

.
.

Industrial Communications Service Ltd
2/343 Church Street
P.O.Box 12-645
Penrose
Auckland
NEW ZEALAND

Tel: +64-9-622-8800
Fax: +64-9-622-8811
www.indcom.co.nz

****
Email disclaimer:

The information in this electronic mail message is confidential
and may be legally privileged. It does not necessarily represent
the views nor the official communication of Industrial
Communications Service Ltd. It is intended solely for the addressee.
Access to this electronic mail message by anyone else is unauthorised.

If you are not the intended recipient, disclosure, copying, distribution
or any action taken or omitted to be taken in reliance on it is
prohibited and may be unlawful.

All final/official papers that are sent from Industrial Communications
Service Ltd, will be sent by non-electronic means, on appropriate
letterhead, signed by authorised personnel.

****

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] New version 1.05 of PSK31 fow SB

From: Eduardo Jacob <edu@kender.es>
Date: Sat, 06 Feb 1999 21:06:55 -0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-3848-1999.02.06-14.07.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From Peter Martinez

Version 1.05 of PSK31SBW is now available from

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw105.zip

The changes to this version are:

** Windows NT is now supported, thanks to the work and patience of Dave AA6YQ.

** The centre-frequency bug in V1.04 is now fixed so you can set the
program to
start with transmit and receive frequencies to match your favourite CW filter.

** If you use "Large Fonts" in your Windows, the text in the main window and
the positioning of the tuning displays are now correct.

** You can now send a file and continue typing into the keyboard without
corrupting the file-send, and pre-type the F5 or F6 keys to end the
transmission afterwards.

>>>

As usual newcomers can find information about PSK31 at

http://aintel.bi.ehu.es/psk31.html

Eduardo

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Matlab HF channel simulator files ?

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 10 Feb 1999 18:22:47 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-4491-1999.02.10-12.27.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello All,

Does anyone have an H.F channel simulator in M file format?

Save me the trouble of writing one ;-)

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Looking for program.

From: Richard B Morrow <k5cnf1@juno.com>
Date: Wed, 10 Feb 1999 19:31:38 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-4548-1999.02.10-19.51.25--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone have a program for Pactor II that will run with a DSP-232?

73 K5CNF

_____
You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at http://www.juno.com/getjuno.html
or call Juno at (800) 654-JUNO [654-5866]

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] JNOS Programmer -- Job Opportunity

From: "Richard Harrison" <atecinc@crosslink.net>
Date: Fri, 12 Feb 1999 10:02:42 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-4897-1999.02.12-09.05.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

US Govt agency intends to use an expanded form of JNOS in a segment of its national RF link structure.
Looking for a programmers/consultants to work in this effort.

Hourly rate and other particulars forthcoming. Interested? Send me an email with your resume.

atecinc@crosslink.net

Richard

6. [hfsig] Re: JNOS Programmer -- Job Opportunity

From: Ken Wickwire <kwick@mitre.org>
Date: Fri, 12 Feb 1999 18:27:32 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-4920-1999.02.12-12.32.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Rich:

This for SHARES or Army Engineers by any chance?
We're doing throughput tests of JNOS over HF with MS110A modems BTW.

Ken

> Richard Harrison wrote:
>
> US Govt agency intends to use an expanded form of JNOS in a segment of
> its national RF link structure. Looking for a programmers/consultants
> to work in this effort.
>
> Hourly rate and other particulars forthcoming. Interested? Send me an
> email with your resume.
>
> atecinc@crosslink.net
>
> Richard
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] New updates of PSK31 for EVM.

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Sat, 13 Feb 1999 14:46:42 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: hfsig@tapr.org, dsp@tapr.org
Message-ID: <LYR4070-5092-1999.02.13-07.47.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From Peter Martinez G3PLX

The PSK31EVM program for the DSP56002EVM kit for WINDOWS has been updated
to fix the problems with file-send, Windows NT, and Large Fonts, so it is
now the same as the soundcard version.

The PSK31 program for the EVM working under DOS has also been updated to
include the on-screen waterfall display. Both WINDOWS and DOS versions now
use the same CLD file which runs the DSP software in the EVM.

DIRECT CONVERSION WITH PSK31.
The EVM versions of PSK31 can now be used, along with suitable hardware, to
build a complete direct-conversion PSK31 transceiver. This should be of
interest to home-contruction fans and those experimenting with VLF bands.

This has been done by using the stereo capability of the EVM card to
process the audio input and output signals as a matched pair of signals
with a 90-degree audio phase-shift between them.

On the transmit side, the two audio outputs can be fed to two balanced
mixers driven by two RF oscillators which have a 90 degree phase-shift
between them. Combining their RF outputs cancels out one sideband, exactly
like a phasing-type SSB generator so that only a single RF output frequency
is generated.

Similarly on the receive side, by feeding the received RF signal to both
mixers and feeding their audio outputs to the EVM stereo inputs, a
single-sideband direct-conversion PSK31 receiver is formed. This feature
will be of interest to homebrew QRP enthusiasts and those experimenting
with VLF bands.

For example, using a readily-available 14318.18 kHz crystal, a
divide-by-four will give the neccesary 90-degree phase shifts at 3579.5
kHz, and two balanced mixers then complete the heart of a transceiver for
the 3580-3581 kHz frequency range with the PSK31 working at 600-1600Hz.

Windows EVM version is here

ftp://det.bi.ehu.es/pub/ham/psk31/p31evw123.zip

Dos EVM version is here

ftp://det.bi.ehu.es/pub/ham/psk31/p31evd302.zip

73
Peter

>>>>

PSK31 WWW pages will be updated later.

For the beginners the PSK31 Homepage is at

http://aintel.bi.ehu.es/psk31.html

Regards Eduardo/EA2BAJ

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] galois C++ class library and RS codec available

From: Phil Karn <karn@homer.ka9q.ampr.org>
Date: Wed, 17 Feb 1999 02:21:30 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-5958-1999.02.17-04.22.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi guys,

Haven't seen much on this list lately, but if it's still active and
anybody's interested, I have written a C++ class library that does
arithmetic and algebra over finite fields, more specifically GF(256).

Also included is a Reed-Solomon codec functionally equivalent to the
one in C I've had on my web page for some time.

The C++ version is considerably slower than the C version so I
recommend the C++ version only for study and educational use. It's
much easier to follow the C++ code as the expressions more closely
resemble those in the coding theory textbooks.

Phil

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: galois C++ class library and RS codec available

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 17 Feb 1999 08:43:18 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Message-ID: <LYR4070-6016-1999.02.17-10.45.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Phil,

It has been a bit quiet on the list but that often is a
good sign -- folks doing some constructive things behind the
scenes.

Thanks for the contribution -- I'll be looking into that
shortly -- presume it's on your web page?

73

Johan, KC7WW

On Wed, 17 Feb 1999, Phil Karn wrote:

> Hi guys,
>
> Haven't seen much on this list lately, but if it's still active and
> anybody's interested, I have written a C++ class library that does
> arithmetic and algebra over finite fields, more specifically GF(256).
>
> Also included is a Reed-Solomon codec functionally equivalent to the
> one in C I've had on my web page for some time.
>
> The C++ version is considerably slower than the C version so I
> recommend the C++ version only for study and educational use. It's
> much easier to follow the C++ code as the expressions more closely
> resemble those in the coding theory textbooks.
>
> Phil
>
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: galois C++ class library and RS codec available

From: Phil Karn <karn@homer.ka9q.ampr.org>
Date: Wed, 17 Feb 1999 09:16:44 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: hfsig@lists.tapr.org
Message-ID: <LYR4070-6023-1999.02.17-11.17.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Thanks for the contribution -- I'll be looking into that
>shortly -- presume it's on your web page?

Yes, and I can't believe I forgot to give the URL (it was very late).
It's available through

http://people.qualcomm.com/karn/code/

along with some other unrelated goodies I've been working on lately.

Phil

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: galois C++ class library and RS codec available

From: Tom McDermott <Tom.McDermot@aud.alcatel.com>
Date: Thu, 18 Feb 1999 08:08:19 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-6211-1999.02.18-08.09.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone have a version of Phil's C++ code that is not tarred then g-ziped?
My version of Netscape (4.) combined with W95 will not correctly extract the file.
Also, a Linux machine will not un-tar it.

I think the problem is that W95 is automatically un-g-zipping it and truncating
the file. I have turned off all automatic extensions in Netscape to prevent
un-zipping it, but it still unzips automatically (and thus truncates automatically)
no matter what I try.

Tom McDermott
n5eg@tapr.org

-----Original Message-----
From: Phil Karn [SMTP:karn@homer.ka9q.ampr.org]
Sent: Wednesday, February 17, 1999 11:17 AM
To: TAPR HF Special Interest Group
Cc: hfsig@lists.tapr.org
Subject: [hfsig] Re: galois C++ class library and RS codec available

>Thanks for the contribution -- I'll be looking into that
>shortly -- presume it's on your web page?

Yes, and I can't believe I forgot to give the URL (it was very late).
It's available through

http://people.qualcomm.com/karn/code/

along with some other unrelated goodies I've been working on lately.

Phil

You are currently subscribed to hfsig as: MCDERMOT@AUD.ALCATEL.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Nevermind ... [Re: galois C++ class library and RS codec available]

From: Tom McDermott <Tom.McDermot@aud.alcatel.com>
Date: Thu, 18 Feb 1999 08:14:56 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-6213-1999.02.18-08.16.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Nevermind, figured out the problem. W95 automatically renames a .gz file
to the suffix .tar But in fact it has not been un-g-zipped, even though windows
changes the name to make you think it has been. Solution is to
rename the file toend in a .gz suffix so that WINZIP can unzip it. then rename
the resultant file to have a .tar suffix so that WINXIP can untar that.

Tom McDermott
mcdermot@aud.alcatel.com

-----Original Message-----
From: Phil Karn [SMTP:karn@homer.ka9q.ampr.org]
Sent: Wednesday, February 17, 1999 11:17 AM
To: TAPR HF Special Interest Group
Cc: hfsig@lists.tapr.org
Subject: [hfsig] Re: galois C++ class library and RS codec available

>Thanks for the contribution -- I'll be looking into that
>shortly -- presume it's on your web page?

Yes, and I can't believe I forgot to give the URL (it was very late).
It's available through

http://people.qualcomm.com/karn/code/

along with some other unrelated goodies I've been working on lately.

Phil

You are currently subscribed to hfsig as: MCDERMOT@AUD.ALCATEL.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: galois C++ class library and RS codec available

From: Mark Schoonover <schoon@amgt.com>
Date: Thu, 18 Feb 1999 09:49:16 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-6258-1999.02.18-11.51.30--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tom:

I've had this problem also using Netscape and 95. What I do is hold the
left shift key down and then click on the URL. That seems to stop this
behaviour. Also, maybe switch to a real ftp client - like ws_ftp - and
download that way.

HTH

==
Mark Schoonover KA6WKE IS Manager
Trail Runner,HAM schoon@amgt.com
ka6wke@wb6dgr.#sca.ca.usa.noam
http://www.qsl.net/ka6wke ka6wke-1 145.05
Mobile: 146.52 & 28.470
Long: 32.85380 Lat: -117.00980 Grid: DM12LU
==

>----------
>From: Tom McDermott[SMTP:Tom.McDermot@aud.alcatel.com]
>Sent: Thursday, February 18, 1999 6:08 AM
>To: TAPR HF Special Interest Group
>Subject: [hfsig] Re: galois C++ class library and RS codec available
>
>Does anyone have a version of Phil's C++ code that is not tarred then
>g-ziped?
>My version of Netscape (4.) combined with W95 will not correctly extract the
>file.
>Also, a Linux machine will not un-tar it.
>
>I think the problem is that W95 is automatically un-g-zipping it and
>truncating
>the file. I have turned off all automatic extensions in Netscape to prevent
>un-zipping it, but it still unzips automatically (and thus truncates
>automatically)
>no matter what I try.
>
>Tom McDermott
>n5eg@tapr.org
>
>
>-----Original Message-----
>From: Phil Karn [SMTP:karn@homer.ka9q.ampr.org]
>Sent: Wednesday, February 17, 1999 11:17 AM
>To: TAPR HF Special Interest Group
>Cc: hfsig@lists.tapr.org
>Subject: [hfsig] Re: galois C++ class library and RS codec available
>
>>Thanks for the contribution -- I'll be looking into that
>>shortly -- presume it's on your web page?
>
>Yes, and I can't believe I forgot to give the URL (it was very late).
>It's available through
>

>http://people.qualcomm.com/karn/code/
>
>along with some other unrelated goodies I've been working on lately.
>
>Phil
>
>---
>You are currently subscribed to hfsig as: MCDERMOT@AUD.ALCATEL.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
>
>---
>You are currently subscribed to hfsig as: schoon@amgt.com
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Download Mirror

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 26 Feb 1999 15:08:19 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-7850-1999.02.26-08.11.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have created a "download mirror" of the PSK31 WWW page in another ISP.
This ISP is on a entirely different backbone and should be (at least
nominally) much better connected to the USA than the old one, but I think
that is worse connected to Europe. Everything in the original webpage
should be in the new one, except the mailist archive which is only in the
oldest one.

        Original PSK31 WWW Homepage
        http://aintel.bi.ehu.es/psk31.html

        Download Mirror of PSK31 WWW Homepage
        http://www.kender.es/~edu/psk31.html

        For the USA keep in mind that the rules we use for getting files from USA
are the same that you should use for getting files from Europe: Get them
while the others sleep :-)

        Eduardo/EA2BAJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] BCH (15,7) Example

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 28 Feb 1999 11:22:02 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-8139-1999.02.28-05.29.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello All,

While looking through some old files I came across an implementation
I wrote of MIL-STD-188-220B Appendix K. This is a simple BCH 15,7 FEC
code. So I thought I would share it with you ;-) If anyone finds a fault
in it let me know please :-(

it is located at http://www.chbrain.co.uk/

As well as the source the ZIP includes a DJGPP executable and Appendix K in
PDF format. I place no restrictions on the use of this code.

I am afraid I have lost the URL for this MIL-STD, which describes a new
CNR (Combat Net Radio) Protocol. I came across it while on one of my
late night searches for military/ham dual use technology!

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] BCH (15,7) Example

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 28 Feb 1999 11:25:52 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-8140-1999.02.28-05.32.05--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Woops,

That should be

http://www.chbrain.dircon.co.uk/

Obviously not enough caffeine intake yet!

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

March 1999

Original source file: hfsig.9903
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9903

1. [hfsig] EVM Call Book updated!

From: murrayg@indcom.co.nz
Date: Wed, 3 Mar 1999 11:42:39 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: Hellschreiber@onelist.com
Message-ID: <LYR4070-8558-1999.03.02-16.45.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Folks -
Just a reminder that a list of Motorola DSP56002 EVM
Amateur Radio users - the EVM Users' Call Book" -
is available at:

http://members.xoom.com/ZL1BPU/MT63/Users.txt

I have just updated the list. There are over 40 users
worldwide!

Anybody interested in swapping notes, looking for
assistance or setting skeds would do well to check
the list.

Anybody interested in developing Amateur Radio
software for the EVM? Let me know!

We need RTTY software for use with PLXBOOT and a
Windows UI, a Windows terminal program for MT63,
and there is plenty of scope for new advanced
modes.

73,
Murray ZL1BPU
http://members.xoom.com/ZL1BPU/

--- snip ---

.
.

Industrial Communications Service Ltd
2/343 Church Street
P.O.Box 12-645
Penrose
Auckland
NEW ZEALAND

Tel: +64-9-622-8800
Fax: +64-9-622-8811
www.indcom.co.nz

****
  Email disclaimer:

  The information in this electronic mail message is confidential
  and may be legally privileged. It does not necessarily represent
  the views nor the official communication of Industrial
  Communications Service Ltd. It is intended solely for the addressee.
  Access to this electronic mail message by anyone else is unauthorised.

  If you are not the intended recipient, disclosure, copying, distribution
  or any action taken or omitted to be taken in reliance on it is
  prohibited and may be unlawful.

  All final/official papers that are sent from Industrial Communications
  Service Ltd, will be sent by non-electronic means, on appropriate
  letterhead, signed by authorised personnel.

****

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Anyone for Coquelet?

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Wed, 3 Mar 1999 23:26:54 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-8616-1999.03.03-04.38.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,
I have recently been given all the technical details for the
Belgian MFSK mode Coquelet, which transmits each
CCITT No. 2 character as a sequential pair of tones.

I would LOVE to try it on the air, to compare it with
other more modern modes. Is anybody willing to code the
Motorola DSP for me? I can do the PC User Interface
(for DOS) if necessary.

Alternatively, a sound card program would be good too.
Coquelet is a great application for DSP, since it
requires 12 concurrent bandpass filters (maybe these
days an FFT solution would be better).

Any volunteers? I'll do all the translation from the original
French!

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Software Radio Conference

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 05 Mar 1999 16:34:15 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-9104-1999.03.05-10.41.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This URL maybe of interest to those of us interested in software radios

http://flattop.its.bldrdoc.gov/spectrum/98-art/present/p_index.html

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] [psk31] PSK31EVM version 1.24

From: Eduardo Jacob <edu@kender.es>
Date: Tue, 09 Mar 1999 22:36:57 -0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-9896-1999.03.09-15.39.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From Peter Martinez G3PLX

PSK31 for the DSP56002EVM has been updated with some performance improvements:

1. The QPSK receiver (the Viterbi decoder) has been changed to a "soft
decision" decoder, in which the actual received phase-shift values are used
to estimate what the transmitted signal was, rather than the received QPSK
data values. Tests on the bench show it to be twice as good as the previous
QPSK receiver. On-air tests show the new QPSK decoder is a useful
improvement under conditions of geomagnetic disturbance.

2. The squelch has been improved so that it will pull-in on traffic as well
as idles, and drop out on noise as well as the "tail carrier". This makes
operating much easier. The squelch toggle button has been replaced with a
Squelch On/Off switch.

3. The AFC has been improved so that it pulls the signal into perfect
tuning instantly as the squelch pulls-in, as well as the original slow
adjustment during the transmission. The AFC now defaults to ON as the
program starts.

The new version is 1.24 and can be downloaded as p31evw124.zip from

ftp://det.bi.ehu.es/pub/ham/psk31/p31evw124.zip
http://www.kender.es/~edu/download/p31evw124.zip

The PSK31 EVM (DOS) version and the PSK31 soundcard programs will be
updated to include these changes as soon as I get feedback from the users
of the EVM program. If you download p31evw124.zip, please send me your
thoughts on these latest changes.

73
Peter G3PLX

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] TCM3105 @ 300 bps AFSK

From: "Marcelo Puhl" <mark@plug-in.com.br>

Date: Wed, 10 Mar 1999 22:58:34 -2
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10117-1999.03.10-19.59.48--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

I have managed to run the good old TCM3105 at 300 bps AFSK !

The trick is as follows :

1. Make an external TTL oscilator with the 4.4336 MHz Xtal.

2. Divide that frequency by two and connect it to the TCM3105 pin 15.

3. Connect pins 5 and 12 to +Vcc, pin 13 to GND (V23 operation).

4. The TCM3105 pins 2 and 16 are left open.

5. The rest of the circuit is conventional.

6. The two AFSK frequencies are now 650 Hz and 850 Hz, 200 Hz shift.

The new modem works ok on 20 meters with my TS140S.

I got the idea from a F5AWN drawing found on the Internet.

Hope this helps someone.

73,
    Marcelo - PY3SS

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] RE: TCM3105 @ 300 bps AFSK

From: "Borcher, David (NG-EX)" <DBorcher@GI.com>

Date: Thu, 11 Mar 1999 09:00:17 -0500

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10206-1999.03.11-08.10.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Marcelo,

The Kantronics KAM uses a TCM3105 on its' HF port. The
performance of the KAM on HF is adequate but no more than
that. I suspect you will find this to be the case with your circuit.
Note that the KAM uses several stages of switched-capacitor
highpass and lowpass filtering in front of the '3105 to get the
performance it does have. You should consider this in any
development efforts you may be undertaking.

By the way, if you know of a retail source for TCM 3105's, I
would like to know about it. I have several flea-market KAM's
that I need to find replacement parts for.

73
Dave Borcher K7NG

7. [hfsig] RE: TCM3105 @ 300 bps AFSK

From: Alexander Kurpiers <kurpiers@zeus.uet.e-technik.tu-darmstadt.de>
Date: Thu, 11 Mar 1999 15:21:07 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10208-1999.03.11-08.23.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Borcher, David (NG-EX) wrote:
>
> Marcelo,
>
> The Kantronics KAM uses a TCM3105 on its' HF port. The

The KAM uses the TCM3105 only for 1200 baud. But of course 300 baud FSK
Packet-Radio
is of no real use on HF anyway...

> By the way, if you know of a retail source for TCM 3105's, I
> would like to know about it. I have several flea-market KAM's
> that I need to find replacement parts for.

I know of at least 3 distributors here in Germany that still have
TCM3105.

73´ Alexander

--
------------------------------+---------------------------------------
| Alexander F. Kurpiers |
|
| Institut fuer Uebertragungs- | Voice: +49-6151-162369
|
| technik u. Elektroakustik | Fax : +49-6151-165545
|
| Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
|
| D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0zdf.#rpl.deu.eu
|
------------------------------+---------------------------------------

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] RE: TCM3105 @ 300 bps AFSK

From: "Borcher, David (NG-EX)" <DBorcher@GI.com>
Date: Thu, 11 Mar 1999 09:34:48 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10210-1999.03.11-08.34.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My mistake. You are correct about the use of the 3105.
I guess I should have a cup of coffee before I respond to
postings.

Almost correct about the value of HF Packet. I am active

with APRS on HF, which uses AX.25 AFSK. Though the
use of AFSK could be easily changed to a more
efficient and robust modulation, the unconnected mode of
AX.25 is far more useful than connected mode. That seems
to me to be the ONLY worthwhile application of AFSK Packet
on HF... UDP IP messages using BPSK would be something
I should like to work with!

Dave K7NG

9. [hfsig] RE: TCM3105 @ 300 bps AFSK -Reply

From: Danie Brynard <BRYD@kidd.Co.Za>
Date: Thu, 11 Mar 1999 16:49:33 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10213-1999.03.11-08.47.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alexander who are the distributors ? I'd be interested to get some. Locally those chips are very scarce.

Danie

>>> Alexander Kurpiers <kurpiers@zeus.uet.e-technik.tu-darmstadt.de> 11/March/1999 04:21pm >>>
> Borcher, David (NG-EX) wrote:
>
> Marcelo,
>
> The Kantronics KAM uses a TCM3105 on its' HF port. The

The KAM uses the TCM3105 only for 1200 baud. But of course 300 baud FSK
Packet-Radio
is of no real use on HF anyway...

> By the way, if you know of a retail source for TCM 3105's, I
> would like to know about it. I have several flea-market KAM's
> that I need to find replacement parts for.

I know of at least 3 distributors here in Germany that still have
TCM3105.

73´ Alexander

--
-------------------------------+---------------------------------------
| Alexander F. Kurpiers |
|
| Institut fuer Uebertragungs- | Voice: +49-6151-162369
|
| technik u. Elektroakustik | Fax : +49-6151-165545
|
| Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
|
| D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0zdf.#rpl.deu.eu
|
-------------------------------+---------------------------------------

---
You are currently subscribed to hfsig as: BRYD@KIDD.CO.ZA
To unsubscribe send a blank email to leave-hfsig-3349M@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] RE: TCM3105 @ 300 bps AFSK -Reply

From: Alexander Kurpiers <kurpiers@zeus.uet.e-technik.tu-darmstadt.de>
Date: Thu, 11 Mar 1999 15:57:09 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10214-1999.03.11-08.59.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Danie Brynard wrote:
>
> Alexander who are the distributors ? I'd be interested to get some. Locally those chips are very
scarce.

> I know of at least 3 distributors here in Germany that still have
> TCM3105.

>
> 73´ Alexander

Gigatech (Tel.: +49-6203-44142, Fax.: +49-6203-46362)   (15,- DM)

Baycom http://www.baycom.org (Tel.: +49-5105-585050) they should have
some, but I´m not too sure they
                sell them (they usually sell kits)

Landolt-Computer http://www.landolt-computer.com (Tel.: +49-6181-45293,
Fax.: +49-6181-431043)
        http://www.landolt-computer.com/preise/bauteile.htm part-no. 1501 (18,-
DM)

73´ Alexander

--
------------------------------+--------------------------------------
| Alexander F. Kurpiers |
|
| Institut fuer Uebertragungs- | Voice: +49-6151-162369
|
| technik u. Elektroakustik | Fax : +49-6151-165545
|
| Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
|
| D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0zdf.#rpl.deu.eu
|
------------------------------+--------------------------------------

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] RE: TCM3105 @ 300 bps AFSK

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Thu, 11 Mar 1999 11:17:37 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10227-1999.03.11-10.19.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 11 Mar 1999, Alexander Kurpiers wrote:

> The KAM uses the TCM3105 only for 1200 baud. But of course 300 baud FSK
> Packet-Radio is of no real use on HF anyway...

*** Agreed. 100% for connected packet. But APRS uses it OK on 10.149.2
for mobile vehicle tracking with redundant UI frames. 300 Baud HF is not
the best, by far, but it does the job...

Now that we see a handful of stations in Europe on the APRS map over here,
maybe its time to listen or join us on 10.149.2 (MARK) from central
Europe?

de WB4APR, Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] RE: TCM3105 @ 300 bps AFSK -Reply

From: "Andrew B. White" <k9cw@prairienet.org>
Date: Thu, 11 Mar 1999 12:35:32 -0600 (CST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10243-1999.03.11-12.37.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

JDR Microdevices (www.jdr.com) still lists the TCM3105 in their catalog,
and I bought one there years ago.

73, Drew

On Thu, 11 Mar 1999, Danie Brynard wrote:

> Alexander who are the distributors ? I'd be interested to get some. Locally those chips are very scarce.
>
> Danie
>

-----------------------------------------------------------------*
| Andrew B. White K9CW | internet: k9cw@prairienet.org |
| ABW Associates, Ltd. | phone/fax: 217-643-7327 |
-----------------------------------------------------------------*

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] PSK31 for the SCS-PTC II

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 12 Mar 1999 12:49:47 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10378-1999.03.12-05.51.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A new version of the firmware for the nice SCS PTC-II unit is available at
their homepage.

http://www.scs-ptc.com

as

http://www.scs-pc.com/download/ptcv27.exe

But what does version 2.7 add ? a PSK31 modem !!

Eduardo/EA2BAJ

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] C++ src classes for PSK availables!!

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 12 Mar 1999 12:49:59 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10381-1999.03.12-05.51.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

With help from G3PLX, Wayne Wright W5XD has put together some C++ classes
that implement the DSP algorithms invented by Peter for PSK. He has also
done a DOS test program that demonstrates their use. The file is available
in a zip file of 43KB that's available here:

ftp://det.bi.ehu.es/pub/ham/psk31/pskcppsrc.zip

and

http://www.kender.es/~edu/download/pskcppsrc.zip

Regards

Eduardo

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: hfsig digest: March 11, 1999

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Fri, 12 Mar 1999 13:12:33 -2
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10401-1999.03.12-10.13.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Date: Fri, 12 Mar 1999 00:00:34 -0600
> Subject: hfsig digest: March 11, 1999
> To: "hfsig digest recipients" <hfsig@lists.tapr.org>
> From: "TAPR HF Special Interest Group digest" <hfsig@lists.tapr.org>
> Reply-to: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>

>
> The KAM uses the TCM3105 only for 1200 baud. But of course 300 baud FSK
> Packet-Radio is of no real use on HF anyway...
>

I'm tired of hearing that 300 bps AFSK is of no real use on HF.

What will be the options on HF ?

When we'll have a cheap PACTOR or CLOVER modem/software available ?

Paying US$ 300 for a TNC or even more for a PTC-II is ridiculous.

Marcelo Puhl
mark@plug-in.com.br

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: hfsig digest: March 11, 1999

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 12 Mar 1999 08:38:32 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10406-1999.03.12-10.40.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Marcelo,

Good points ... I am rather amazed that the HF networking
guys still have not realized what else is available
for almost free. With an EVM and the SP9VRC 15-tone modem
they have a drop-in replacement for the poorly performing
300 baud HF packet. All that is needed is the EVM.

This is a system that has a KISS interface, i.e., easy integration
with NOS, Linux etc ... , does AX.25, runs at 3800 bps (that is
raw rate, with error control, effectively some 800 BPS) and it has
shown outstanding performance on HF.

I demonstrated this software at the DCC, guess some three years
ago and have had many very enjoyable ragchews on HF with a couple
stations in California (some 1000 mile path).

I'm not sure this helps as I have advertized this option
on this list on severa occasions but seems no-one seems
seriously interested, still goes back to the old 300 baud
packet discussion centered around PK-232's, KAMs, and other
TNCs.

Let me know if anyone is interested and I will put up
a few pointers for folks to follow upon.

73

Johan, KC7WW

On Fri, 12 Mar 1999, Marcelo Puhl wrote:

> > Date: Fri, 12 Mar 1999 00:00:34 -0600
> > Subject: hfsig digest: March 11, 1999
> > To: "hfsig digest recipients" <hfsig@lists.tapr.org>
> > From: "TAPR HF Special Interest Group digest" <hfsig@lists.tapr.org>
> > Reply-to: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
>
> >
> > The KAM uses the TCM3105 only for 1200 baud. But of course 300 baud FSK
> > Packet-Radio is of no real use on HF anyway...
> >
>
> I'm tired of hearing that 300 bps AFSK is of no real use on HF.
>
> What will be the options on HF ?
>
> When we'll have a cheap PACTOR or CLOVER modem/software available ?
>
> Paying US$ 300 for a TNC or even more for a PTC-II is ridiculous.
>
> ---
> Marcelo Puhl
> mark@plug-in.com.br
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] Re: hfsig digest: March 11, 1999

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 12 Mar 1999 17:22:38 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10409-1999.03.12-11.30.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan Forrer wrote:

> I'm not sure this helps as I have advertized this option
> on this list on severa occasions but seems no-one seems
> seriously interested, still goes back to the old 300 baud
> packet discussion centered around PK-232's, KAMs, and other
> TNCs.
>

I think the trouble is that even now it is difficult to access the
right audience. I found a short mention in Radcom got a much bigger
response than I have ever had from the WWW. Maybe a snippet in QST
is what you should do. 9/10ths of anything these days seems to
be PR.

While I am at it,

Has anyone used the XILINX DSP starter kit ? If so what did they think of it
as an intro into high speed DSP ?

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] PSK31 for the SCS-PTC II

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 12 Mar 1999 18:58:23 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10419-1999.03.12-12.03.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I intended to say that the PTC-II firmware that adds PSK31 is at:

http://www.scs-ptc.com/download/ptcv27.exe

        Eduardo/EA2BAJ

```
-------------------------------------------------------
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
```

19. [hfsig] Re: hfsig digest: March 11, 1999

```
From: Walt DuBose - K5YFW <k5yfw@www.kelly-afb.org>
Date: Fri, 12 Mar 1999 12:23:46 -0600 (CST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10422-1999.03.12-12.24.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

Marcelo,

I agree that $300 for a dedicated piece of hardware is ridiculous. But paying that much for hardware that is programmable with a PC with an open systems OS on it is certainly not.

Walt

```
    ========================================================================
    |           In a world without fences, who needs Gates?                |
    |----------------------------------------------------------------------|
    |        If I wanted "Windows", I'd knock a hole in my wall.           |
    ========================================================================
    |                                  |                                   |
    |                                  | The Micro$oft operating system    |
    | Walt DuBose - K5YFW              | didn't get as bad as it is        |
    | E-Mail k5yfw@www.kelly-afb.org   | overnight.  I has taken over 10   |
    | Business Telephone: (210)925-9311 | years of careful, calculated,    |
    |                          Ext 3408 |                                   |
    |     Home Telephone: (210)696-3196 | development.                      |
    |                                  |                                   |
    ========================================================================
    |   Using MS is like eating high class dog food...its still dog food.  |
    ========================================================================
```

On Fri, 12 Mar 1999, Marcelo Puhl wrote:

```
> > Date:          Fri, 12 Mar 1999 00:00:34 -0600
> > Subject:       hfsig digest: March 11, 1999
> > To:            "hfsig digest recipients" <hfsig@lists.tapr.org>
> > From:          "TAPR HF Special Interest Group digest" <hfsig@lists.tapr.org>
> > Reply-to:      "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
>
> >
> > The KAM uses the TCM3105 only for 1200 baud. But of course 300 baud FSK
> > Packet-Radio is of no real use on HF anyway...
> >
>
> I'm tired of hearing that 300 bps AFSK is of no real use on HF.
>
> What will be the options on HF ?
>
> When we'll have a cheap PACTOR or CLOVER modem/software available ?
>
> Paying US$ 300 for a TNC or even more for a PTC-II is ridiculous.
>
> ---
> Marcelo Puhl
> mark@plug-in.com.br
>
> ---
> You are currently subscribed to hfsig as: K5YFW@WWW.KELLY-AFB.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>


---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
```

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: hfsig digest: March 11, 1999

From: Jack Taylor <n7oo@theriver.com>
Date: Fri, 12 Mar 1999 11:40:41 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10425-1999.03.12-12.43.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Johan, I'd be interested in your pointers for more info.

73 de Jack

Johan Forrer wrote:

> Marcelo,
>
> Good points ... I am rather amazed that the HF networking
> guys still have not realized what else is available
> for almost free. With an EVM and the SP9VRC 15-tone modem
> they have a drop-in replacement for the poorly performing
> 300 baud HF packet. All that is needed is the EVM.
>
> This is a system that has a KISS interface, i.e., easy integration
> with NOS, Linux etc ... , does AX.25, runs at 3800 bps (that is
> raw rate, with error control, effectively some 800 BPS) and it has
> shown outstanding performance on HF.
>
> I demonstrated this software at the DCC, guess some three years
> ago and have had many very enjoyable ragchews on HF with a couple
> stations in California (some 1000 mile path).
>
> I'm not sure this helps as I have advertized this option
> on this list on severa occasions but seems no-one seems
> seriously interested, still goes back to the old 300 baud
> packet discussion centered around PK-232's, KAMs, and other
> TNCs.
>
> Let me know if anyone is interested and I will put up
> a few pointers for folks to follow upon.
>
> 73
>
> Johan, KC7WW
>
> On Fri, 12 Mar 1999, Marcelo Puhl wrote:
>
> > > Date: Fri, 12 Mar 1999 00:00:34 -0600
> > > Subject: hfsig digest: March 11, 1999
> > > To: "hfsig digest recipients" <hfsig@lists.tapr.org>
> > > From: "TAPR HF Special Interest Group digest" <hfsig@lists.tapr.org>
> > > Reply-to: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
> > >
> > > > The KAM uses the TCM3105 only for 1200 baud. But of course 300 baud FSK
> > > > Packet-Radio is of no real use on HF anyway...
> > > >
> > >
> > > I'm tired of hearing that 300 bps AFSK is of no real use on HF.
> > >
> > > What will be the options on HF ?
> > >
> > > When we'll have a cheap PACTOR or CLOVER modem/software available ?
> > >
> > > Paying US$ 300 for a TNC or even more for a PTC-II is ridiculous.
> > >
> > > ---
> > > Marcelo Puhl
> > > mark@plug-in.com.br
> > >
> > > ---
> > > You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> > > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> > >
> > >
> >
> > ---
> > You are currently subscribed to hfsig as: n7oo@theriver.com
> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] Re: hfsig digest: March 11, 1999

From: Walt DuBose - K5YFW <k5yfw@www.kelly-afb.org>
Date: Fri, 12 Mar 1999 12:48:38 -0600 (CST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10426-1999.03.12-12.49.05--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan,

I've said this for 5 years now...if you don't get a major equipment
manufacturer on your side (which you probably never will) _OR_ get the
ARRL to push it like they did packet back in the 70's, then it "ain't
gonna happen". If the ARRL pushes it, then maybe we'll see some real
interest in the EVM and TAPR host kit.

I wish I could believe that TAPR could do it on their own...but it didn't
happen with packet and won't with high speed data on HF. TAPR has the
technical capability within its ranks but just not the membership base...
and part of that is how much money hams spend for hobby support vs equipment.
You can't expect a ham to spend more thatn 10% of his total yearly hobby
budget on a support organization/professional organization (local radio
club, repeater club, ARRL, etc).

There needs to be a business strategy plan within the ham community that is
interested in high speed data on HF.

The following is the minimum needed to accomplish the above.

1) A stated/published "GOAL".
2) An accepted starting point/standard. Define the standard.
3) Inclusion of as many hams as possible.
   For instance...having an HF modem where you could
   change the baud/bit rate to work 9600+ BPS on V/UHF.
   This takes in the the no-code technician.
4) A networking plan that can be included into the ARRL
   National Traffic System.
5) Need a political action group to "lobby" the ARRL to
   accept 1) and 2) above and promote its use.
6) A technical infra-structure in TARP to support the hardware
   and software requirements for 2) above.

That's my view from here.

Walt/K5YFW

==============================
| Walt DuBose - K5YFW |
| SA-ALC/PKA Web Site |
| Systems Manager |
| k5yfw@www.kelly-afb.org |
| Telephone: (210)925-9311 |
| Ext 3408 |
| Home Phone: (210) 696-3196 |
==============================

On Fri, 12 Mar 1999, Johan Forrer wrote:

> Marcelo,
>
> Good points ... I am rather amazed that the HF networking
> guys still have not realized what else is available
> for almost free. With an EVM and the SP9VRC 15-tone modem
> they have a drop-in replacement for the poorly performing
> 300 baud HF packet. All that is needed is the EVM.
>
> This is a system that has a KISS interface, i.e., easy integration
> with NOS, Linux etc ... , does AX.25, runs at 3800 bps (that is
> raw rate, with error control, effectively some 800 BPS) and it has
> shown outstanding performance on HF.
>

> I demonstrated this software at the DCC, guess some three years
> ago and have had many very enjoyable ragchews on HF with a couple
> stations in California (some 1000 mile path).
>
> I'm not sure this helps as I have advertized this option
> on this list on severa occasions but seems no-one seems
> seriously interested, still goes back to the old 300 baud
> packet discussion centered around PK-232's, KAMs, and other
> TNCs.
>
> Let me know if anyone is interested and I will put up
> a few pointers for folks to follow upon.
>
> 73
>
> Johan, KC7WW
>
>
>
>
> On Fri, 12 Mar 1999, Marcelo Puhl wrote:
>
> > > Date: Fri, 12 Mar 1999 00:00:34 -0600
> > > Subject: hfsig digest: March 11, 1999
> > > To: "hfsig digest recipients" <hfsig@lists.tapr.org>
> > > From: "TAPR HF Special Interest Group digest" <hfsig@lists.tapr.org>
> > > Reply-to: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
> > >
> > >
> > > The KAM uses the TCM3105 only for 1200 baud. But of course 300 baud FSK
> > > Packet-Radio is of no real use on HF anyway...
> > >
> >
> > I'm tired of hearing that 300 bps AFSK is of no real use on HF.
> >
> > What will be the options on HF ?
> >
> > When we'll have a cheap PACTOR or CLOVER modem/software available ?
> >
> > Paying US$ 300 for a TNC or even more for a PTC-II is ridiculous.
> >
> > ---
> > Marcelo Puhl
> > mark@plug-in.com.br
> >
> > ---
> > You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> >
> >
>
>
> ---
> You are currently subscribed to hfsig as: K5YFW@WWW.KELLY-AFB.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

22. [hfsig] Re: hfsig digest: March 11, 1999

From: W6RCecilA <w6rca@ibm.net>
Date: Fri, 12 Mar 1999 12:55:39 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10429-1999.03.12-12.58.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt DuBose - K5YFW wrote:
> I agree that $300 for a dedicated piece of hardware is ridiculous.   But
> paying that much for hardware that is programmable with a PC with an open
> systems OS on it is certainly not.

A programmable modem (DSP56002EVM) costs around $125 - and I do
mean programmable :-)
--
73, Cecil, W6RCA   http://www.bigfoot.com/~w6rca

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] Re: hfsig digest: March 11, 1999

From: Doug Faunt N6TQS +1-510-655-8604 <faunt@netcom.com>
Date: Fri, 12 Mar 1999 11:18:36 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: hfsig@lists.tapr.org
Message-ID: <LYR4070-10442-1999.03.12-13.20.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I think the EVM56K costs more than that now, and they're even more
expensive overseas apparently. If you buy the TAPR box, an EVM and
cables, you're approaching $300., if not exceeding it, and you get no
"official" support, which is important to many.

73, doug

> Date: Fri, 12 Mar 1999 12:55:39 -0700
> From: W6RCecilA <w6rca@ibm.net>
> Reply-To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
>
> Walt DuBose - K5YFW wrote:
> > I agree that $300 for a dedicated piece of hardware is ridiculous.   But
> > paying that much for hardware that is programmable with a PC with an open
> > systems OS on it is certainly not.
>
> A programmable modem (DSP56002EVM) costs around $125 - and I do
> mean programmable :-)
> --
> 73, Cecil, W6RCA   http://www.bigfoot.com/~w6rca
>
> ---
> You are currently subscribed to hfsig as: FAUNT@NETCOM.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Re: hfsig digest: March 11, 1999

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 12 Mar 1999 12:08:37 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10450-1999.03.12-14.10.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt,

Youre quite right about support of the approriate kind.
But just see what happened to PSK31 --- it took G3PLX to
turn it into a "killer" app. by making available:

1) free code, that
2) works with a PC sound card, and
3) runs under Windows.

Not surprizingly, the ARRL took notice once the discussions
started about legalize, and band plans.

Unfortunately, this mode, that I coined "Q15X25" (15-tone
QPSK with X25) is not yet available for use with a sound
card and Windows. Think of it as 15 PSK31 tones squeezed
into a block, some 1000Hz wide, and on top of that AX.25
protocol. I suspect that it also will become main stream
and get ARRL support, once the above three conditions
are met. Otherwise it will be just the few of us experimenting.

73,

Johan

On Fri, 12 Mar 1999, Walt DuBose - K5YFW wrote:

> Johan,
>
> I've said this for 5 years now...if you don't get a major equipment
> manufacturer on your side (which you probably never will) _OR_ get the
> ARRL to push it like they did packet back in the 70's, then it "ain't
> gonna happen". If the ARRL pushes it, then maybe we'll see some real
> interest in the EVM and TAPR host kit.
>
> I wish I could believe that TAPR could do it on their own...but it didn't
> happen with packet and won't with high speed data on HF. TAPR has the
> technical capability within its ranks but just not the membership base...
> and part of that is how much money hams spend for hobby support vs equipment.
> You can't expect a ham to spend more thatn 10% of his total yearly hobby
> budget on a support organization/professional organization (local radio
> club, repeater club, ARRL, etc).
>
> There needs to be a business strategy plan within the ham community that is
> interested in high speed data on HF.
>
> The following is the minimum needed to accomplish the above.
>
>   1) A stated/published "GOAL".
>   2) An accepted starting point/standard. Define the standard.
>   3) Inclusion of as many hams as possible.
>   For instance...having an HF modem where you could
>   change the baud/bit rate to work 9600+ BPS on V/UHF.
>   This takes in the the no-code technician.
>   4) A networking plan that can be included into the ARRL
>   National Traffic System.
>   5) Need a political action group to "lobby" the ARRL to
>   accept 1) and 2) above and promote its use.
>   6) A technical infra-structure in TARP to support the hardware
>   and software requirements for 2) above.
>
> That's my view from here.
>
> Walt/K5YFW
>
> ==============================
> | Walt DuBose - K5YFW |
> | SA-ALC/PKA Web Site |
> | Systems Manager |
> | k5yfw@www.kelly-afb.org |
> | Telephone: (210)925-9311 |
> | Ext 3408 |
> | Home Phone: (210) 696-3196 |
> ==============================
>
>
> On Fri, 12 Mar 1999, Johan Forrer wrote:
>
> > Marcelo,
> >
> > Good points ... I am rather amazed that the HF networking
> > guys still have not realized what else is available
> > for almost free. With an EVM and the SP9VRC 15-tone modem
> > they have a drop-in replacement for the poorly performing
> > 300 baud HF packet. All that is needed is the EVM.
> >
> > This is a system that has a KISS interface, i.e., easy integration
> > with NOS, Linux etc ... , does AX.25, runs at 3800 bps (that is
> > raw rate, with error control, effectively some 800 BPS) and it has
> > shown outstanding performance on HF.
> >
> > I demonstrated this software at the DCC, guess some three years
> > ago and have had many very enjoyable ragchews on HF with a couple
> > stations in California (some 1000 mile path).
> >
> > I'm not sure this helps as I have advertized this option
> > on this list on severa occasions but seems no-one seems
> > seriously interested, still goes back to the old 300 baud
> > packet discussion centered around PK-232's, KAMs, and other
> > TNCs.

> >
> > Let me know if anyone is interested and I will put up
> > a few pointers for folks to follow upon.
> >
> > 73
> >
> > Johan, KC7WW
> >
> >
> >
> >
> > On Fri, 12 Mar 1999, Marcelo Puhl wrote:
> >
> > > > Date: Fri, 12 Mar 1999 00:00:34 -0600
> > > > Subject: hfsig digest: March 11, 1999
> > > > To: "hfsig digest recipients" <hfsig@lists.tapr.org>
> > > > From: "TAPR HF Special Interest Group digest" <hfsig@lists.tapr.org>
> > > > Reply-to: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
> > >
> > > >
> > > > The KAM uses the TCM3105 only for 1200 baud. But of course 300 baud FSK
> > > > Packet-Radio is of no real use on HF anyway...
> > > >
> > >
> > > I'm tired of hearing that 300 bps AFSK is of no real use on HF.
> > >
> > > What will be the options on HF ?
> > >
> > > When we'll have a cheap PACTOR or CLOVER modem/software available ?
> > >
> > > Paying US$ 300 for a TNC or even more for a PTC-II is ridiculous.
> > >
> > > ---
> > > Marcelo Puhl
> > > mark@plug-in.com.br
> > >
> > > ---
> > > You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> > > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> > >
> > >
> >
> >
> > ---
> > You are currently subscribed to hfsig as: K5YFW@WWW.KELLY-AFB.ORG
> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> >
> >
> >
> > ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

25. [hfsig] Re: hfsig digest: March 11, 1999

From: "f1usa" <f1usa@wanadoo.fr>
Date: Fri, 12 Mar 1999 17:43:24 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10452-1999.03.12-14.57.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Johan & all,

>I demonstrated this software at the DCC, guess some three years
>ago and have had many very enjoyable ragchews on HF with a couple
>stations in California (some 1000 mile path).

>Let me know if anyone is interested and I will put up
>a few pointers for folks to follow upon.

Good idea !

73 de F1USA, Stéphane (Oleron Island)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

26. [hfsig] Re: hfsig digest: March 11, 1999

From: "Borcher, David (NG-EX)" <DBorcher@GI.com>
Date: Fri, 12 Mar 1999 11:50:11 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10456-1999.03.12-15.28.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Let me know if anyone is interested and I will put up
        a few pointers for folks to follow upon.

.....

Johan, I am always interested in higher throughput on HF.

That's why I subscribe to this list.
Anything that can easily be interfaced to existing equipment with
minimal modification to the equipment is of enormous interest.

If you can, please point me to articles and papers on AFSK
alternatives I might have missed despite the 18 months I have
subscribed to this list.

Thanks, 73
Dave Borcher K7NG

27. [hfsig] Re: hfsig digest: March 11, 1999

From: Anthony Martin <anthony.n.martin@marconicomms.com>
Date: Fri, 12 Mar 1999 21:54:08 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10459-1999.03.12-15.56.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt DuBose - K5YFW wrote:

> There needs to be a business strategy plan within the ham community that is
> interested in high speed data on HF.

Many here are interested in low-speed long-haul contacts (psk31 etc)
but I suppose that's different to packet.

> The following is the minimum needed to accomplish the above.
>
>   1) A stated/published "GOAL".
>   2) An accepted starting point/standard. Define the standard.
>   3) Inclusion of as many hams as possible.
>   For instance...having an HF modem where you could
>   change the baud/bit rate to work 9600+ BPS on V/UHF.
>   This takes in the the no-code technician.
>   4) A networking plan that can be included into the ARRL
>   National Traffic System.
>   5) Need a political action group to "lobby" the ARRL to
>   accept 1) and 2) above and promote its use.
>   6) A technical infra-structure in TARP to support the hardware
>   and software requirements for 2) above.
>
Maybe we should aim for global 24Hr connectivity?

I don't think EVM will be the platform to achieve these things.

EVMs are still quite expensive and will become difficult to source.
They require extra interfaces to be built to mate with transceivers,
and therefore aren't suitable for those without hardware skills.
The EVM price is fixed; it isn't possible to reduce the cost of EVM
by design changes, higher quantities, changing supplier etc.

It should be a 1-board design, about 2 inches square, about 4
chips and 2 connectors. Cheap. Standard. Reliable. No fuss.

Or a *platform-independent* implementation that will run on
PC/Mac/Unices using whatever AF i/o the platform provides.
A parallel tone modem takes 3 mips on a DSP, 2 or 3x that on
a CISC desktop CPU.

Initially I don't think reprogrammability is a good idea. HF packet
needs to have a fixed standard designed with good performance
from the start. Multiple incompatible waveforms won't help at all.
It will reduce connectivity and confuse potential buyers.

99% of it will be promotion, but a polished software/hardware
package and a definitive HF-packet on-air standard are also needed
first.

--
Recovering from `changed corporate identity syndrome'
____

A.N.Martin anthony.n.martin@marconicomms.com www.marconicomms.com
Snr. Development Engineer Tel. 01245 353221 x4995
Military Products Engineering Fax. 01245 275993
Marconi Communications UK, Marconi House, New St. Chelmsford, UK
____

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

28. [hfsig] Re: hfsig digest: March 11, 1999

From: forrerj@peak.org (Johan Forrer)
Date: Fri, 12 Mar 1999 21:42:00 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10485-1999.03.12-23.45.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Jack,

I put together some materials on my web page on the subject. URL is:
http://www.peak.org/~forrerj.
Please look at the section on "High Speed CSMA Digital Networking for HF"
there is a ZIP file that you need to download ... its towards to end
of the page.

Let me know if there are questions -- it is a very rough cut of
a first draft, but will be a piece of cake for EVM gurus.

73,

Johan, KC7WW

>Hi Johan, I'd be interested in your pointers for more info.
>
>73 de Jack
>
>Johan Forrer wrote:
>
>> Marcelo,
>>
>> Good points ... I am rather amazed that the HF networking
>> guys still have not realized what else is available
>> for almost free. With an EVM and the SP9VRC 15-tone modem
>> they have a drop-in replacement for the poorly performing
>> 300 baud HF packet. All that is needed is the EVM.
>>
>> This is a system that has a KISS interface, i.e., easy integration
>> with NOS, Linux etc ... , does AX.25, runs at 3800 bps (that is
>> raw rate, with error control, effectively some 800 BPS) and it has
>> shown outstanding performance on HF.
>>
>> I demonstrated this software at the DCC, guess some three years
>> ago and have had many very enjoyable ragchews on HF with a couple
>> stations in California (some 1000 mile path).
>>
>> I'm not sure this helps as I have advertized this option
>> on this list on severa occasions but seems no-one seems
>> seriously interested, still goes back to the old 300 baud
>> packet discussion centered around PK-232's, KAMs, and other
>> TNCs.
>>
>> Let me know if anyone is interested and I will put up

>> a few pointers for folks to follow upon.
>>
>> 73
>>
>> Johan, KC7WW
>>
>> On Fri, 12 Mar 1999, Marcelo Puhl wrote:
>>
>> > > Date: Fri, 12 Mar 1999 00:00:34 -0600
>> > > Subject: hfsig digest: March 11, 1999
>> > > To: "hfsig digest recipients" <hfsig@lists.tapr.org>
>> > > From: "TAPR HF Special Interest Group digest"
<hfsig@lists.tapr.org>
>> > > Reply-to: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
>> >
>> > >
>> > > The KAM uses the TCM3105 only for 1200 baud. But of course 300 baud FSK
>> > > Packet-Radio is of no real use on HF anyway...
>> > >
>> >
>> > I'm tired of hearing that 300 bps AFSK is of no real use on HF.
>> >
>> > What will be the options on HF ?
>> >
>> > When we'll have a cheap PACTOR or CLOVER modem/software available ?
>> >
>> > Paying US$ 300 for a TNC or even more for a PTC-II is ridiculous.
>> >
>> > ---
>> > Marcelo Puhl
>> > mark@plug-in.com.br
>> >
>> > ---
>> > You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
>> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>> >
>> >
>>
>> ---
>> You are currently subscribed to hfsig as: n7oo@theriver.com
>> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
>
>
>---
>You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

29. [hfsig] Re: hfsig digest: March 11, 1999

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sat, 13 Mar 1999 10:25:47 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10525-1999.03.13-04.34.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony Martin wrote:

> EVMs are still quite expensive and will become difficult to source.
> They require extra interfaces to be built to mate with transceivers,
> and therefore aren't suitable for those without hardware skills.
> The EVM price is fixed; it isn't possible to reduce the cost of EVM
> by design changes, higher quantities, changing supplier etc.
>

Hi all,

There ia always the Easy Dsp unit

see

http://ourworld.compuserve.com/homepages/HFFAX/toc32.htm

I know nothing about these units but I believe they are EVM
compatible.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

30. [hfsig] Re: hfsig digest: March 11, 1999

From: Richard B Morrow <k5cnf1@juno.com>
Date: Sat, 13 Mar 1999 19:32:46 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10587-1999.03.13-19.32.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If you guys ever want to get a new and improved digital commuications
system going, you should try to figure a way to make it compatiable with
some of the equipment that is on the market already. The DSP-232 I have
has a spare modem hole in it that is for experimentation with new modes.
Us formula and digitally challenged idiots need stuff that could be used
with what we got. I know that this may not be possible, but thought I
would bring it up for stare at and possible intelligent or
semi-intelligent comments. I personally don't understand 98% of what you
guys discuss and work on, that is not my bag in ham radio, antennas and
amps is. But I realize that what you all do is VERY important to amateur
radio in advancing new and improved methods of communications.. I got
that much sense about this field. BUT it must be compatable or easily
made so for the existing gear out there already in order for it to fly
with the general population of hams that already have some sort of
multimode box sitting in the ham shack.

Just my .0002 Cents worth

Richard, K5CNF

_____
You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at http://www.juno.com/getjuno.html
or call Juno at (800) 654-JUNO [654-5866]

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

31. [hfsig] Serial Comms & Borland Builder

From: Danie Brynard <BRYD@kidd.Co.Za>
Date: Mon, 15 Mar 1999 11:28:22 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10756-1999.03.15-03.58.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does somebody have a very simple snippet of example code that shows
how to write a character to the com2 port and also to read it back ?
(using Borland C++ Builder) Trying to write some windows interfaces
now..everybody seems to go that way.

Danie
zs6awk

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

32. [hfsig] Re: High Speed CSMA Digital Networking for HF

From: Anthony Martin <anthony.n.martin@marconicomms.com>
Date: Mon, 15 Mar 1999 21:59:10 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10872-1999.03.15-16.01.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan Forrer wrote:
>
> Hello Jack,

>
> I put together some materials on my web page on the subject. URL is:
> http://www.peak.org/~forrerj.
> Please look at the section on "High Speed CSMA Digital Networking for HF"
> there is a ZIP file that you need to download ... its towards to end
> of the page.
>
> Let me know if there are questions -- it is a very rough cut of
> a first draft, but will be a piece of cake for EVM gurus.
>

Johan, I think you should be using a symbol rate nearer to 40 baud
with a 50Hz carrier spacing. That gives you a 5ms multipath window.

You need to design for at least 5ms multipath.

OTOH if the symbol rate is too low there may be a problem with phase
noise of the transceiver; Anyone got any typical figures for phase
noise of ham rigs at 40Hz offset from carrier?

Can you give more info on your preamble?

Over the last month I've been redesigning a parallel tone modem sync
sequence, and testing all the time on a channel simulator to get the
performance up (probability of missed sync down) on poor fading
skywave channels.

I threw out what was basically a two-phase sequence in favor of
one long FSK sequence correlation. Due to the statistics of fading
channels, it needs to be 400 to 700ms long and sync in -5dB SNR/3kHz
AWGN.

I had to do a lot of research on binary sequences with good correlation
properties. At lenghts of 7, 11 & 13 the Barker sequences are well
known which have perfect autocorrelation properties. But at many longer
lengths there are sequences that are as good as or better than Barker.
I came up with an efficient program to find them. It takes about 20
minutes to find the best sequences length 45 on a Sparc Ultra. In
comparison, a brute-force search of the codespace would take about
100 days. It I can also do quartic, sextic and higher base sequences.

Message loss through missed preambles has a very serious impact on
ARQ protocols, any significant loss isn't tolerable.

}}} My current thorts on HF nets...

I think to build an HF packet network, we have to recognise a few
basic facts about HF. If connectivity between 2 HF stations is to
be maintained automatically through 24 hours then use of several
frequencies will be needed. Connectivity of a node to 2 or more
other HF stations will probably also need use of different
frequencies. Also, the long-distance propagation on HF means that
a channel can't be re-used for >2000km whereas its more like 100km
for the 2m networks, which creates a throughput problem. I think
we should bite the bullet and accept that HF packet has to have
basic frequency management and scanning in it.

Without some capability of frequency selection, we would have a
network whose connectivity varied heavily with propagation,
time-of-day etc and routing would be very dynamic and unstable.
It would be an interesting challenge to devise automatic routing
mechanisms for such a network.

Another problem with half-duplex HF is the link turnround time.
Modems usually end up resynchronising every time, and to do this
reliably in HF channel conditions takes 0.5 to 1 second. More time
is wasted if an interleaver is in use. As a modem can retain
timing over some 30s, the turnround time could be reduced to 20ms
in over-overs, dispensing with preambles & suspending the interleave
buffer. HF modems should have a concept of connections and should
take on the role of accepting the duplex traffic and managing the
half-duplex link, more like telephone line modems do. In fact,
what's wrong with a hayes `AT' command set to establish the
link? The modem should support PPP or SLIP directly.

My feeling at the present is that HF is not very well served by the
current crop of link-establishment protocols, where links are
dynamically established and broken on demand. Frequency management
& time management in these systems becomes very complex, and the

overheads of link establishment are high. My thoughts at the moment
are that HF networks would work better if each node had a small number
of fixed maintained links to its neighbours. Links are kept open by
occasional dummy exchanges, they're sync'ed & connected but idle and
ready for traffic. Each link could have a simple frequency sked to
keep it open.

AX25 has no concept of making and breaking connections at the link
layer, and has a lot of overhead for HF. I think we should take a
look at the experiments with ATM over HF. ATM is a halfway-house
between IP/X25 packets that have to be individually addressed & routed,
and circuit-switched networks that provide only 1-to-1 connections.
ATM recognises that real applications use virtual connections and is
designed to route virtual connections and then exchange packets on
virtual paths. (I only read up on ATM a few days ago and it's already
clear why we should be using it on HF).

Packet networks are fine, but I'm not too happy with the idea of CSMA,
& I think ATM would be better for us on HF.

Just some thoughts... & trying to break the mould a bit here

Ant
--
Recovering from `changed corporate identity syndrome'
____

A.N.Martin   anthony.n.martin@marconicomms.com   www.marconicomms.com
Snr. Development Engineer   Tel.   01245 353221 x4995
Military Products Engineering   Fax.   01245 275993
Marconi Communications UK, Marconi House, New St. Chelmsford, UK
____

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

33. [hfsig] Re: High Speed CSMA Digital Networking for HF

From: Alexander Kurpiers <kurpiers@zeus.uet.e-technik.tu-darmstadt.de>
Date: Tue, 16 Mar 1999 09:29:40 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10947-1999.03.16-02.31.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony Martin wrote:

> I threw out what was basically a two-phase sequence in favor of
> one long FSK sequence correlation. Due to the statistics of fading
> channels, it needs to be 400 to 700ms long and sync in -5dB SNR/3kHz
> AWGN.

Are you using non-coherent FSK demodulation and afterwards correlating
the
output of an FSK demodulator with the sequence?

>
> I had to do a lot of research on binary sequences with good correlation
> properties. At lenghts of 7, 11 & 13 the Barker sequences are well
> known which have perfect autocorrelation properties. But at many longer
> lengths there are sequences that are as good as or better than Barker.
> I came up with an efficient program to find them. It takes about 20
> minutes to find the best sequences length 45 on a Sparc Ultra. In
> comparison, a brute-force search of the codespace would take about
> 100 days. It I can also do quartic, sextic and higher base sequences.

The Barker sequences are the only sequences with a "perfect" aperiodic
autocorrelation
function. They are known to a length up to 38 (13 is the longest known
real valued sequence).
If you are only interested in the periodic acf, then other sequences may
be better.
(A sequence is called Barker sequence, if the aperiodic autocorrelation
function is between
-1 and 1 for every shift other then 0).

Your optimization program sounds interesting. We did some research a
while ago
into Barker sequences here. It turned out that the problem of reducing

the crest factor
of OFDM signals and the search for complex Barker sequences lead to
nearly the same
equations. Stochastic optimization algorithms were used to find the
longest known sequences
(currently 38). But the time to find the best sequence was more or less
some weeks...
That was in 1994, but anyway...

73´ Alexander

--
-------------------------------+---------------------------------------
| Alexander F. Kurpiers |
|
| Institut fuer Uebertragungs- | Voice: +49-6151-162369
|
| technik u. Elektroakustik | Fax : +49-6151-165545
|
| Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
|
| D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0zdf.#rpl.deu.eu
|
-------------------------------+---------------------------------------

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

34. [hfsig] Re: High Speed CSMA Digital Networking for HF

From: Anthony Martin <anthony.n.martin@marconicomms.com>
Date: Tue, 16 Mar 1999 09:55:20 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-10951-1999.03.16-03.58.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alexander Kurpiers wrote:
>
> Anthony Martin wrote:
>
> > I threw out what was basically a two-phase sequence in favor of
> > one long FSK sequence correlation. Due to the statistics of fading
> > channels, it needs to be 400 to 700ms long and sync in -5dB SNR/3kHz
> > AWGN.
>
> Are you using non-coherent FSK demodulation and afterwards correlating
> the
> output of an FSK demodulator with the sequence?

yes.

FSK is demodulated with what is effectively the 2 bandpass-filter method
and comparison of the power in the 2 tones. But no hard decision is
made.

> The Barker sequences are the only sequences with a "perfect" aperiodic
> autocorrelation function. They are known to a length up to 38

!!
What alphabet or base was it in? I'll try and find it...

Binary was simpler to implement. I didn't have to change too much.
I doubt that a larger alphabet sequence would perform better.
a) if I used say 6-ary FSK the BW would be wider allowing in more noise
b) the low grass of the autocorrelation in the sequence I have is down
in the noise.

> If you are only interested in the periodic acf, then other sequences may
> be better.

Standard m-sequences all have optimum periodic autocorelation functions.
I've got books on spread-spectrum & CDMA and they cover this
extensively.
But that's not what you want for modem sync - good aperiodic acf is what
you require.

> It turned out that the problem of reducing the crest factor

> of OFDM signals and the search for complex Barker sequences lead to
> nearly the same equations.

That's an interesting result, but I'm not suprised.

--
Recovering from `changed corporate identity syndrome'
____

A.N.Martin anthony.n.martin@marconicomms.com www.marconicomms.com
Snr. Development Engineer Tel. 01245 353221 x4995
Military Products Engineering Fax. 01245 275993
Marconi Communications UK, Marconi House, New St. Chelmsford, UK
____

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

35. [hfsig] MT63 Simulator tests.

From: forrerj@peak.org (Johan Forrer)
Date: Tue, 16 Mar 1999 22:24:49 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-11084-1999.03.17-00.29.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

Trust this is of interest ....

I did a couple of simulator runs earlier this evening to
characterize Pawel's, SP9VRC, MT63 modem. Attached
is a snippet from these tests --- I'll post the full details shortly
on my web page so you can check out how your favorite
weak signal communications system was doing under similar
conditions.

The test was done at three levels 0dB, -5dB and -10dB SNR
AWGN (3kHz) for a CCIR-520 "POOR" channel, i.e.,
two equal-power rays, delayed 2ms, with 1 Hz fading.
If you have never worked with an HF channel simulator,
take my word; these are awful conditions -- not only is the
signal very weak, it also has serious multipath distortion and
played against a Gaussian noise background.

For the benefit of those that do not know about MT63:
It has a waveform that consists of 63 tones that fits in a 1 kHz
spectrum block. Each tone is QPSK (differentially) modulated.
The transmission protocol contains some ECC and does include
extensive interleaving. One serious problem with such a multitone
waveform is that it is extremely difficult to control the
envelope's crest factor, i.e., the peak-to-average ratio.
MT63 has an extraordinary low crest factor due to some
clever ideas that Pawel implemented.

Look at the results and think you might agree that it is
pretty awsome?

73,

Johan, KC7WW

==================================
This is the actual message sent.
==================================

The TUNER program - TUNER.COM
----

1. This is a tuning aid to help get a received tone exactly on 800.0 Hz.
It should accept COM2, COM3, COM4 command line parameters (default is COM1)
and report CLIPPING (audio signal too strong for the sigma-delta circuit).

2. Unfortunately it takes too many computing cycles to incorporate this
in COHERENT, so run TUNER first if necessary, using an 800 Hz sinewave
with no modulation on it (a steady carrier in other words).
It may be slightly useful on a carrier that is phase-modulated, but

the indicator will jump around trying to follow the modulation, and in
any event the useful frequency range would be limited.

------ RESULTS RECEIVED ------
==
1) ... MT63 at 0 dB SNR (3kHz) CCIR-520 POOR
==

The TUNER program - TUNER.COM
----------------------&-----y

. This is a tuning aid to help get a received toe exactly on 800.0 Hz.
It should accept COM2, COM3, COM4 command line parameters (default is COM1)
{and report CLIPPING (audio signaH too srungmfor#the sigma-delta rircuit).

2. Unfortunately it takes too many computing cycles to incorporate this
in COHERENT, so run TUNER first:if*n3ce"sary, ueing an 8.0 Hz sinewave
with no modulation on it (a steady carrier in other words).
It may be slightly useful on a carrier that is phase-modulatKd, but
t9e indicator will jump around trying to follow the modulation, and in
any event the useful frequency range would be limited.

==
2) ... MT63 at -5 dB SNR (3kHz) CCIR-520 POOR
==

The TUNER program - TUNER.COM
----

1. This is a tuning aid to help get a)received tone exactly on 800.0 Hz.
It should a'cept \OM2,COM3, COM4 command line parameters (default is COM1)
and report CLIPPING (audio signal too strong for the siQma-delta ci.cuit).
G
T. Unfortunately it takes too many computing cycles to incorporate hos
?in COHERENT, so run TUNER first if necessary, using an 800 Hz sinewave
with no modulation on it (a steady carrier in other words).
It may be slightly useful oj a carrier that is phase-modulated, but
the indicatEr will jump around [ryMng to follow the modulation,?and in
any event the useful frequency range would be limited.

==
3) ... MT63 at -10 dB SNR (3kHz) CCIR-520 POOR
==

The TUNER prog   am - TUNERCOM
tl/h-----------------------------

31. This is a tuning aid to help get a receivid tone exactly on 800.0 Hz.
It should acceKt COM4, CYM3, COM4 commKnd line parameters (default is COM1)
and report CLIPPING (audio signal too strong for the sigma-delta circuit).

2. Unfortunately it takes too many computing cycles to incorporate this
in COHERENT, so run 'UNER first if necessay, using an 800 Hz sinewav
wSth no modlation[on it (a steady carrier in other words).
It may be slightly usEful on a carrier thatBi} pwase-modulated, but
the indicator will jump around trying to follTw the mod
lation, an in
yany event the usef,l(frequency range would be limited.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

36. [hfsig] Re: MT63 Simulator tests.

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Wed, 17 Mar 1999 12:37:54 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-11101-1999.03.17-05.38.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I did a couple of simulator runs earlier this evening to
>characterize Pawel's, SP9VRC, MT63 modem. Attached
>is a snippet from these tests --- I'll post the full details shortly

>on my web page so you can check out how your favorite
>weak signal communications system was doing under similar
>conditions.

Very interesting indeed... It confirms what we already knew by test. It would be nice if you could test if there are any differences between the new version of PSK31 for the EVM with soft-decission and the older version.

Eduardo/EA2BAJ

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

37. [hfsig] Re: Serial Comms & Borland Builder

From: Lester.Veenstra@comsat.com
Date: Wed, 17 Mar 1999 09:43:02 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-11121-1999.03.17-08.56.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Suggest you look at

www.marshallsoft.com

They have a good set, with source code examples

_____ Reply Separator _____
Subject: [hfsig] Serial Comms & Borland Builder
Author: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org> at INTERNET
Date: 3/15/99 11:28 AM

Does somebody have a very simple snippet of example code that shows
how to write a character to the com2 port and also to read it back ?
(using Borland C++ Builder) Trying to write some windows interfaces
now..everybody seems to go that way.

Danie
zs6awk

You are currently subscribed to hfsig as: LESTER.VEENSTRA@COMSAT.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
[Attachment: RFC822 message headers; text/plain; 1,100 bytes]

38. [hfsig] Re: MT63 Simulator tests.

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 17 Mar 1999 08:28:17 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-11129-1999.03.17-10.30.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Eduardo,

I did that over the weekened, but did not want to
distribute any results before showing it to Peter, G3PLX.
Now that he's seen it and I have his comments, I can share
that too. I'll put the whole series of test results
on my web page later.

In short ... PSK31's latest version vs. the 1997 EVM version
is nearly identical. Actually, the test showed really no
significant difference made by the soft-decision decoder.
Peter did not expect it to make much difference either,
but there are other reasons why he choose to do that, like
for example to operate the squelch function better.

73's

Johan

On Wed, 17 Mar 1999, Eduardo Jacob wrote:

> >I did a couple of simulator runs earlier this evening to
> >characterize Pawel's, SP9VRC, MT63 modem. Attached
> >is a snippet from these tests --- I'll post the full details shortly
> >on my web page so you can check out how your favorite
> >weak signal communications system was doing under similar
> >conditions.
>
> Very interesting indeed... It confirms what we already knew by test. It
> would be nice if you could test if there are any differences between the
> new version of PSK31 for the EVM with soft-decission and the older version.
>
> Eduardo/EA2BAJ
>
>
> --
> Eduardo EA2BAJ
> DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
> VHF PACKET: EA2BAJ @ EA2URV
> PGP Key avlb: Send email w/subject: PGPKEY
> fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

39. [hfsig] Updated Simulator Results

From: forrerj@peak.org (Johan Forrer)
Date: Thu, 18 Mar 1999 20:54:30 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-11330-1999.03.18-22.58.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

I updated my web page with additional HF channel simulator
results that includes PSK31 in QPSK mode, and MT63 used
in three different configurations. Look under the "Recent Advances"
topic at: http://www.peak.org/~forrerj.

Trust this is of interest.

73

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

40. [hfsig] RE: Serial Comms & Borland Builder

From: "Giedrius Misiunas" <giedrius.misiunas@ff.vu.lt>
Date: Tue, 23 Mar 1999 00:55:40 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-11971-1999.03.22-17.58.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You can look in
http://sunsite.icm.edu.pl/delphi/authors/a0002598.htm
Here is free TComPort class unit for Delphi...
73 - Gied, LY2CG

==== LY2CG, Vilnius, LITHUANIA ====
=== Giedrius.Misiunas@ff.vu.lt   ===

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

41. [hfsig] More simulator results for HF PSK.

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Tue, 23 Mar 1999 11:26:00 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-12134-1999.03.23-13.29.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

Michael, DL6IAK has done further tests using the
HF channel simulator on various experimental versions
of PSK modems for HF. Check out his results at:

http://www.qsl.net/dl6iak/testpsk.htm

The results include experimental higher rate versions
of PSK31 also his floating-point DSP version of PSK31,
and SCS's version of PSK31 for the PTC-II unit.

I think you will find it worth checking. His PSK implementation
with a long interleaver is particularly interesting and has
outstanding performance.

73

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

42. [hfsig] Spanish PSK31 for Windows on SB Helpfile.

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 26 Mar 1999 20:10:44 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-12587-1999.03.26-13.13.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new Windows Help File for the PSK31 Windows SB version in
spanish. It is translated by Pauli EA3BLQ . I hope his example will be
soonly be followed.

        It's available as:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbh_es.zip

and

http://www.kender.es/~edu/download/p31sbh_es.zip

        Regards

        Eduardo/EA2BAJ

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

April 1999

Original source file: hfsig.9904
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9904

1. [hfsig] TAPR Board of Directors Election Reminder

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Thu, 8 Apr 1999 12:30:22 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-14733-1999.04.08-12.34.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is a reminder to all TAPR members* that the TAPR Board of Directors
Election is happening until April 15th.

The current PSR supplied the necessary information for voting
electronically or via the mail.

If you don't know the web address or have lost your voter verification
number, then please send e-mail to tapr@tapr.org or call the TAPR office
(940) 383-0000 and Dorothy can supply you with the necessary information
for voting on-line.

The following people this year are running for the TAPR board of directors.

        Steve Bible, N7HPR
        Steve Dimse, K4HG
        Bob Hansen, N2GDE
        Steve Stroh, N8GNJ

Your vote as a member is important -- be sure to vote!

Cheers - Greg Jones, WD5IVD
President, TAPR

----
* membership current as of or before January 1, 1999 to be able to vote.

Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
----
e-mail: tapr@tapr.org   web: <http://www.tapr.org/>
ftp: ftp.tapr.org
phone: 940-383-0000   fax: 940-565-2544

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] My digital voice experiments on H.F

From: Charles Brain <chbrain@dircon.co.uk>
Date: Thu, 15 Apr 1999 20:54:55 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-16215-1999.04.15-15.05.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello All,

Its been rather quiet here recently!

For those of you who don't already know, I have updated my digital voice experiment page.

The page now includes some .WAV files including actual received digital voice from my
successful 40 meter experiments of a couple of weeks ago.

http://www.chbrain.dircon.co.uk/dvhf.html

- Sorry for the plug!

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] TAPR activities at Dayton HamVention

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Mon, 19 Apr 1999 12:58:12 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-16821-1999.04.19-13.04.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR Dayton Activities 1999
for details visit: http://www.tapr.org/tapr/html/Fdayton.html

---

TAPR Digital Forum on Friday

The schedule for the TAPR digital forum is:

10:00 - 10:05am (5 min)
Introduction to Forum, John Ackermann, N8UR

10:05 - 10:30am (25min)
TAPR Update, Greg Jones, WD5IVD

10:30 - 11:00am (30 min)
Linux AX.25 Update, John Ackermann, N8UR

11:00 - 11:30am (30 min)
PIC Development Update, Steve Bible, N7HPR and John Hansen, W2FS

11:30 - 12:00noon (30 min)
GPS Projects, Steve Bible, N7HPR

12:00noon - 12:30pm (30 min)
Compact Flash Card Project, John Koster, W9DDD

12:30 - 1:00pm (30 min)
TAPR APRS News, Steve Dimse, K4HG and Stan Horzepa, WA1LOU

1:00pm - 1:45pm (45 min)
FHSS Radio Project Update, Tom McDermott, N5EG

Attending the 1999 Dayton Hamvention? Then don't miss out on PACK*BASH!

What?

An event for the digitally-inclined ham, featuring:

* Buffet dinner
* "A Little Technology Goes a Long Way" -- Keynote address
  by Dave Pederson, N7BHC
* TAPR special interest group meetings
* "Birds of a Feather" gatherings

When?

Friday evening, May 14, 1999
Doors open at 7:00 pm; dinner served at 7:30 pm
Speaker and meetings after dinner

Where?

NCR "Sugarcamp" Conference Center, 101 W. Schantz Ave. --
South of downtown Dayton, just west of Main St. (Rt 48).
Maps available on the TAPR web site (www.tapr.org) or at the
TAPR booth.

How?

Dinner requires advance registration and payment through TAPR.
Tickets will be available at the TAPR booth on Friday, though
we strongly encourage registration <before> Hamvention. The cost
is $20.00 per person, tax and tip included.

All amateurs are welcome to attend, enjoy the speaker, and
particpate in the meetings, although only those purchasing a
dinner can eat.

To register, contact:
PACK*BASH
c/o TAPR
8987-309 E. Tanque Verde Road #337
Tucson, AZ 85749-9399

Phone: (940) 383-0000
Fax: (940) 566-2544
Internet: tapr@tapr.org

Visa/Mastercard Accepted

Who?
PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet
Radio, the national leader in digital communication -- and the
Miami Valley FM Association, Dayton's packet radio club.

For more information (including maps), go to
http://www.tapr.org/tapr/html/dayton.html,
or send email to tapr@tapr.org.

You can request information via packet radio at
BASH@W8APR.#DAY.OH.USA.NOAM.

Greg Jones, WD5IVD Austin, Texas
wd5ivd@tapr.org http://www.tapr.org/~wd5ivd

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Help for a 8086 processor

From: "Nicola Savella" <savella@ieee.org>
Date: Fri, 23 Apr 1999 22:34:46 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-17471-1999.04.23-15.42.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can anyone help me to find packet-radio program that runs under 8086
processor with 640kb RAM and DOS 6 or older?
Can you give me an internet address where to download it?
Exist packet-modem for this old processor?
I want to know if I can use packet with an old PC (Olivetti)!

Bye, 73

Nicola
(waiting for radio-amateur license, now italian amateur patent
3321/TS/W)
==========
Nicola Savella ICQ#: 33410992
http://space.tin.it/io/nsavell
Email: savella@ieee.org

DEEI - University of Trieste - ITALY
http://www.univ.trieste.it/~nirdeei
==========

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: Help for a 8086 processor

From: Walt DuBose - K5YFW <k5yfw@www.kelly-afb.org>
Date: Fri, 23 Apr 1999 15:49:50 -0500 (CDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-17476-1999.04.23-15.51.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Nicola,

Look for "packcomm" in some archive...if you don't find it, let me know
and I'll send you a copy. Or perhaps TAPR would put it on their FTP server.

73,

Walt

==========

```
|        Microsoft's Motto          |
|      "Mundus vult decipi"         |
=====================================
| Walt DuBose - K5YFW               |
| E-Mail k5yfw@www.kelly-afb.org    |
| Business Telephone: (210)925-9311 |
|                     Ext 3408      |
|     Home Telephone: (210)696-3196 |
=====================================

On Fri, 23 Apr 1999, Nicola Savella wrote:

> Can anyone help me to find packet-radio program that runs under 8086
> processor with 640kb RAM and DOS 6 or older?
> Can you give me an internet address where to download it?
> Exist packet-modem for this old processor?
> I want to know if I can use packet with an old PC (Olivetti)!
>
> Bye, 73
>
> Nicola
> (waiting for radio-amateur license, now italian amateur patent
> 3321/TS/W)
> ====================================
> Nicola Savella        ICQ#: 33410992
> http://space.tin.it/io/nsavell
> Email: savella@ieee.org
>
> DEEI - University of Trieste - ITALY
> http://www.univ.trieste.it/~nirdeei
> ====================================
>
>
>
> ---
> You are currently subscribed to hfsig as: K5YFW@WWW.KELLY-AFB.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
```

6. [hfsig] Re: Help for a 8086 processor

```
From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 23 Apr 1999 23:31:59 -0400 (EDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Message-ID: <LYR4070-17506-1999.04.23-22.36.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
On Fri, 23 Apr 1999, Nicola Savella wrote:

> Can anyone help me to find packet-radio program that runs under 8086
> processor with 640kb RAM and DOS 6 or older?
> Can you give me an internet address where to download it?

APRSdos will run on all PC's.  Not only will it to text, but it does it
with a MAP display also to show you where other APRS stations are.

All APRS activity is on one frequency, 10.151 LSB.  But you can also see
anyone in the world on APRS by telnetting to 199.227.86.221 port 23 where
every APRS packet in the world is posted in real time.

This makes the worlds largest HF diversity receiver.  Over 100 HF stations
all monioring the same frequency and posting all packets heard to one
TCPIP TELNET port.  UNFORTUNATELY, however, all known APRS acitivity is in
the western hemisphere and we see 0 activity in Europe.  Come join us!

ALso, transmit on 10151 LSB (Exact mark is 10.149.2 MHz) and if your
packet is seen in the USA, you will see it on that TELNET site!
-------------

ftp from tapr.org in the following directory:

aprssig/dosstuff/APRSdos

Get the latest APRSxxx.zip file (currently 839) and also the maps for your
```

area. These are of the form XXmapsVV.zip where the XX are the 5 regions
of the USA or EUmaps09.zip for Europe, SA for South AMerica etc...

Be sure to unzip them using PKUNZIP -d to get the right directory
structure..

Reply mail addr: wb4apr@amsat.org
US mail address: 115 old Farm Ct, Glen Burnie, MD 21060
See DAYTON97 HISTORY: http://web.usna.navy.mil/~bruninga/dayton.html
See Maryland APRS LIVE: http://web.usna.navy.mil/~bruninga/aprs.html
See GPS on ANY radio: http://www.tapr.org/tapr/html/mic-e.html

de WB4APR, Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] PSK31 for Windows and SB version 1.06 available.

From: Eduardo Jacob <edu@kender.es>
Date: Mon, 26 Apr 1999 00:27:37 -0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-17731-1999.04.25-17.32.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From Peter
>>>

PSK31SBW version 1.06 is now available for download from the web locations shown below.

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw106.zip (Best from EU)
http://www.kender.es/~edu/download/p31sbw106.zip (Best from USA)

The changes on this version are:

1) The QPSK receive decoder was previously a "hard decision" decoder and is now a "soft decision"
decoder. What this means is an improvement in QPSK copy. It's rather difficult to say exactly how much
of an improvement it is, but on the bench with random errors it's nearly twice as good as before. On-air
 it will not be so good.

2) The squelch action has been enhanced so that not only does it pull-in (instantly) when the signal
idles, but will pull-in (after about a second) when the signal is sending traffic and is sufficiently
clean to copy. Not only does it drop out (instantly) when the signal sends a carrier (the squelch tail),
 but will also drop out (after about a second) when there is no detectable signal in the noise. The
single squelch button has been replaced with a squelch selector which toggles between "auto", where it
performs as described, and "off" where the signal is copied all the time regardless. This change will
remove the need to hit the Squelch button if you tune in a signal that's already sending or a signal
fades out before it finishes.

3) The AFC, as well as slowly correcting any drift in the signal, now also corrects completely any
off-tune error at the instant that the squelch pulls-in. This means that after tuning on the main
receiver in 10Hz steps, for example, or after clicking in the waterfall, the signal will be pulled-in
precisely on-tune as it starts printing.

4) The way that the F5-F8 keys operate has been changed slightly to eliminate a lock-out condition that
could occur if some of these keys were pressed in rapid succession.

73
Peter

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] New Macintosh program for PSK31

From: Eduardo Jacob <edu@kender.es>
Date: Mon, 26 Apr 1999 21:28:43 -0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-17853-1999.04.26-14.33.04--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a RX only (for now) shareware program called Multimode for the macintosh. You can take a look
at it's homepage:

http://ww%20w.blackcatsystems.com/software/multimode.html

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Oops small error in URL of Macintosh program for PSK31

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Tue, 27 Apr 1999 09:39:44 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-17953-1999.04.27-02.49.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The correct URL is

http://www.blackcatsystems.com/software/multimode.html

Eduardo

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] ARRL & TAPR 1999 DCC Announcement

From: Greg Jones <wd5ivd@tapr.org>
Date: Thu, 29 Apr 1999 16:00:10 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-18338-1999.04.29-15.57.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

1999 ARRL and TAPR Digital Communications Conference
September 24-26, 1999
Phoenix, Arizona

Full announcement and details can be found
at: http://www.tapr.org/dcc

The 1999 ARRL and TAPR Digital Communications Conference will
be held September 24-26, 1999 in Phoenix, Arizona. This year's
conference location is just minutes away from the Phoenix Sky Harbor
International Airport (PHX).

Symposia, Seminars, Banquet

In addition to the presentation of papers on Saturday, three
symposia/seminars will be held. These sessions are provided to allow
those with additional time and interest to make the most of the Digital
Communications Conference. For those who may have interest in
just one symposium or seminar, registration for the conference is not
required to attend these activities. This allows maximum flexibility for
those who may want to participate during the Digital Communications
Conference, but do not have an entire weekend to devote to the event.

The Third APRS National Symposium will be held on Friday and will
be moderated by Steve Dimse, K4HG (the developer of javAPRS). It
will likely include many APRS software authors, such as Bob
Bruninga, WB4APR (the father of APRS), Keith Sproul, WU2Z, Mark
Sproul, KB2ICI (the developers of MacAPRS and WinAPRS), Brent
Hildebrand, KH2Z (the developer of APRSPLUS), Mike Musick,
N0QBF (developer of PocketAPRS), and other nationally-known APRS
leaders. Join this group for the afternoon and evening for in-depth
discussions and presentations on the current and future status of
APRS. This is a unique opportunity to gain insight into this fast-
growing digital aspect of amateur operations that combines computers,
packet radio, and GPS (Global Positioning System).

Starting late Friday afternoon, a half-day technical seminar will be held. In the past this seminar has covered topics such as RF, DSP, Advanced Networking Topologies and other stimulating topics.

On Saturday night the DCC Banquet will be held. This year the conference is proud to have Geoff Baehr, N6LXA, Sun Microsystems Chief Network Officer at the banquet to speak. Sun Microsystems has been doing some very exciting things in networking over the years and the talk should be an interesting one. After the banquet there will be time for special interest group gatherings.

The Sunday morning seminar will be focused on PIC development, design, and programming. This five-and-a-half hour seminar will focus on the things you need to know now in order to understand and begin to participate in PIC development. PIC processors are becoming very important in various project designs and implementations. This seminar will by presented by the TAPR PIC Development team.

Fourth Annual ARRL and TAPR DCC Student Papers Award

ARRL and TAPR especially welcome papers from full-time students to compete for the fourth annual student papers award. Two $500 travel awards may be given, one in each of the following categories: a) best technical/theory-oriented paper by a student, and b) best educational or community-oriented application paper by a student. The paper should relate directly to a wireless digital communication topic (see the guidelines for more information). Papers co-authored by educators or telecommunications professionals are also eligible for this award as long as a student is the first author. The deadline for receipt of finished student paper manuscript is July 10, 1999. Please note that this deadline is different from the general conference paper submission date. For full details and paper guidelines contact TAPR or browse to http://www.tapr.org/dcc.

Call for Conference Proceeding Papers

Anyone interested in digital communications is invited to submit a paper for publication in the Conference Proceedings. Presentation at the conference is not required for publication. The primary purpose of the conference is to communicate ideas and techniques regarding digital communications. Papers written in an informal style are welcome, as well as those written to academic standards. If you know of someone who is doing great things with digital communications, be sure to tell them about this! Papers are due by August 9, 1999, and should be submitted to Maty Weinberg, ARRL, 225 Main Street, Newington, CT 06111, or via e-mail to lweinberg@arrl.org. The paper submission guidelines are available on-line (http://www.tapr.org/dcc).

International Co-Host

PRUG (Packet Radio User Group of Japan) will be the International co-host for a second year running. PRUG will be hosting an informal social Friday evening before their seminar and symposium is held. Visit http://www.prug.or.jp for more information about the organization.

Full information on the conference and hotel information can be obtained by contacting Tucson Amateur Packet Radio, 8987-309 E. Tanque Verde Road #337, Tucson, AZ 85749-9399, phone 940-383-0000, fax 940-566-2544, e-mail tapr@tapr.org, browse www.tapr.org/dcc.

Sincerely,
Greg Jones, WD5IVD, TAPR Conference Chair
Steve Stroh, N8GNJ, Conference Manager
Dan Meredith, N7MRP, Local Host Liaison
Keith Justice, KF7TP, Local Host Liaison

Note: If you need conference handouts or flyers for ham club meetings, contact TAPR to get what you need!

Hotel Information

Conference presentations, meetings, and seminars will be held at the
Holiday Inn Select Airport. Special DCC rooms rates are $69/single
and $79/double per night. When making reservations with the hotel,
be sure to indicate you are attending the ARRL and TAPR DCC in
order to get the discount. It is highly recommended that you book
your room prior to arriving. A block of 75 rooms is reserved until
August 22, 1999. After the 75 rooms are booked, rooms will only be
available in nearby hotels, so be sure to book your rooms early! The
hotel provides transportation to and from the Phoenix Sky Harbor
International Airport. Please contact the hotel to arrange specific
transportation needs.

   Holiday Inn Select Airport (conference hotel)
   4300 E Washington
   Phoenix, AZ 850234
   Phone 602-273-7778, fax 602-286-1109

Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
----
e-mail: tapr@tapr.org   web: <http://www.tapr.org/>
ftp: ftp.tapr.org
phone: 940-383-0000   fax: 940-565-2544

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

May 1999

Original source file: hfsig.9905
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9905

1. [hfsig] New Helpfiles for PSK31 on SB

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 03 May 1999 19:59:31 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-18931-1999.05.03-13.06.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There are new files available:

The Spanish help files for version 1.06 are here:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw106-es.zip
http://www.kender.es/~edu/download/p31sbw106-es.zip

The Russian help files for version 1.05 are here:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw105-ru.zip
http://www.kender.es/~edu/download/p31sbw105-ru.zip

Please -follow- the instructions give in the readme.txt file.

Regards

Eduardo/EA2BAJ

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] New help files, more info

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Tue, 04 May 1999 10:19:48 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-19058-1999.05.04-03.27.29--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I forgot to say that this hard work was done by:

Mike Pavlov RV3DBL and Andrey Otroshenko RA3DOA for the Russian version and Pauli EA3BLQ for the spanish version.

I would like to say that this is on of the best ways to spread the mode, I have received messages from French (more) and German (less) hams, asking for a local helpfile to understand the subtilities of the mode.

If you would like to begin a translation, I suggest you to contact Peter G3PLX. He will explain you how to do it and pass you material.

Eduardo/EA2BAJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Hamview 2.20 available

From: Alberto di Bene <dibene@usa.net>
Date: 6 May 99 11:48:37 WET DDST
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-19398-1999.05.06-04.53.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hamview version 2.20 is now available at the URL :

http://www.freeyellow.com/members/padan

We left also V 2.10 available in case someone has problems with the new
version.
Please report any bug you may found.

What's new ?

- Audio delay reduced to about one tenth of a second between input and output
- Separate processing paths for audio and spectral display. Denoiser now
affects audio only
- Input Gain is now adjustable from 0 to 31 in the INI file
- Input Source is selectable between Line and Mike inputs in the INI file
- The EME period, 2 minutes in the previous version, is now adjustable in the
INI file
- The Denoiser effectiveness has been improved for CW
- Still more bugs have been chased down and exterminated (but some do probably
remain remain)

The Windows version is constantly (albeit slowly) proceeding. Estimated time
frame for release is October.

73,
Alberto I2PHD
Vittorio IK2CZL

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Russian Help Files for P31SBW 1.06

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Thu, 06 May 1999 18:49:38 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-19450-1999.05.06-11.54.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Andrei has just sent me the new version of their russian helpfiles.

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw106-ru.zip
http://www.kender.es/~edu/download/p31sbw106-ru.zip

You can now replace the original help file with this one.

Regards

Eduardo/EA2BAJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] HF Digital Seminar at ARRL Convention; June 5th

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Mon, 10 May 1999 13:03:35 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-20141-1999.05.10-15.07.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

Announcement:

There will be a seminar on HF digital communications
at the annual ARRL NorthWest Division Convention on Saturday,
June 5th,1999. The venue is at Seaside, Oregon and the title
of the seminar is:

New Directions for HF Digital: PSK31, MT63, MTHELL, Q15X25,

and Digital Speech by Johan Forrer, KC7WW --- A non-technical
overview of these hot new modes.

If you can make it, hope to see you there!

73

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] TAPR Dayton Activities 1999

From: Greg Jones <wd5ivd@tapr.org>
Date: Tue, 11 May 1999 21:54:45 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-20445-1999.05.11-22.33.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR Dayton Activities 1999
for details visit: http://www.tapr.org/tapr/html/Fdayton.html

We will be at our normal booth spaces (542 & 543)
Come on by and say hi!

Friday Morning - TAPR Digital Forum
Friday Evening - TAPR PACK*BASH

TAPR Digital Forum on Friday

The schedule for the TAPR digital forum is:
        10:00 - 10:05am (5 min)
              Introduction to Forum, John Ackermann, N8UR

        10:05 - 10:30am (25min)
              TAPR Update, Greg Jones, WD5IVD

        10:30 - 11:00am (30 min)
              Linux AX.25 Update, John Ackermann, N8UR

        11:00 - 11:30am (30 min)
              PIC Development Update, Steve Bible, N7HPR and John Hansen, W2FS

        11:30 - 12:00noon (30 min)
              GPS Projects, Steve Bible, N7HPR

        12:00noon - 12:30pm (30 min)
              Compact Flash Card Project, John Koster, W9DDD

        12:30 - 1:00pm (30 min)
              TAPR APRS News, Steve Dimse, K4HG and Stan Horzepa, WA1LOU

        1:00pm - 1:45pm (45 min)
             FHSS Radio Project Update, Tom McDermott, N5EG

Attending the 1999 Dayton Hamvention? Then don't miss out on PACK*BASH!

What?
       An event for the digitally-inclined ham, featuring:
        * Buffet dinner
        * "A Little Technology Goes a Long Way" -- Keynote address
                by Dave Pederson, N7BHC
        * TAPR special interest group meetings
        * "Birds of a Feather" gatherings

When?
        Friday evening, May 14, 1999
        Doors open at 7:00 pm; dinner served at 7:30 pm
        Speaker and meetings after dinner

Where?
        NCR "Sugarcamp" Conference Center, 101 W. Schantz Ave. --

South of downtown Dayton, just west of Main St. (Rt 48).
Maps available on the TAPR web site (www.tapr.org) or at the
TAPR booth.

How?
Dinner requires advance registration and payment through TAPR.
Tickets will be available at the TAPR booth on Friday. The cost
is $20.00 per person, tax and tip included.

All amateurs are welcome to attend, enjoy the speaker, and
particpate in the meetings, although only those purchasing a
dinner can eat.

Who?
PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet
Radio, the national leader in digital communication -- and the
Miami Valley FM Association, Dayton's packet radio club.

For more information (including maps), go to
http://www.tapr.org/tapr/html/dayton.html,
or send email to tapr@tapr.org.

Greg Jones, WD5IVD Austin, Texas
wd5ivd@tapr.org http://www.tapr.org/~wd5ivd

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] 1999 TAPR Digital Forum @ HamVention

From: Greg Jones <wd5ivd@tapr.org>
Date: Mon, 31 May 1999 13:14:11 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-23589-1999.05.31-13.22.45--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The audio from the TAPR Digital Forum held during the 1999 Dayton
Hamvention is now available for listening. If you couldn't make the forum
this year, you can catch up on all the talks.

http://www.tapr.org/tapr/html/Fdayton99.html

Welcome to the TAPR Digital Forum
John Ackermann, AG9V, Forum Moderator

TAPR Kit/Project/Organizational Update
Greg Jones, WD5IVD (www)

Linux AX.25
John Ackermann, N8UR

PIC-E Developments
Steve Bible, N7HPR (www) and John Hanson, W2FS

GPS Projects
Steve Bible, N7HPR (www)

Compact Flash Adapter
John Koster, W9DDD

APRS Update
Steve Dimse, K4HG and Stan Horzepa, WA1LOU

TAPR 900Mhz FHSS Radio Project
Tom McDermott, N5EG

in addition Dave Pedersen, N7BHC, talk on "A Little Technology Goes a Long
Way" during the TAPR PacketBASH on Friday is available.

Cheers - Greg Jones, WD5IVD

```
------------------------------------------------------------------------------
Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
------------------------------------------------------------------------------
e-mail: tapr@tapr.org       web: <http://www.tapr.org/>
ftp:    ftp.tapr.org
phone:  940-383-0000        fax: 940-565-2544
------------------------------------------------------------------------------

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
```

June 1999

Original source file: hfsig.9906
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9906

1. [hfsig] Materials on HF Digital presentation

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Thu, 3 Jun 1999 09:04:01 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-24019-1999.06.03-11.09.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi folks,

Just to let you know that the slides for my presentation
at the ARRL Northwest Division Convention is now available
on my web site: http://www.peak.org/~forrerj.

Reminder that the talk is on Saterday, June 4th; titled
"New Directions in HF Digital Communications" and includes
a non-technical discussion of PSK31, C-BPSK, MT63, MTHELL,
Q15X25, and Digital Speech. 45 mins of slides and sound.

Thanks to all that contributed materials and granting
permissions to use their work.

73,

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] SeaPac HF Digital feedback

From: forrerj@peak.org (Johan Forrer)
Date: Sat, 05 Jun 1999 20:30:36 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-24514-1999.06.05-22.39.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

For those interested, a brief follow up after my talk this morning:

There was seating room for some 65 people. That was filled and
we had folks sitting on the floor as well as lining up the walls.
The organizer tells me they counted 85 souls, so I guess there
remains stong interest in HF digital and especially what promise
these future modes holds.

On the question of how many are active on PSK31, I counted some
10-15 hands. On the question of how many are interested in
becoming active on PSK31, there were some 5-10. On the question of who
have ever heard or seen anything about the other modes besides
PSK31, there probably was one or two, but nobody indicated such.

I think the message is very clear --- we, as experimentors with these
future mode are doing a good job at developing these future modes,
but sadly to say, we are really failing in getting the message out.
We need more people promoting this work, also we need to start publishing
stuff in the main stream publications like QST. The folks at ARRL just
simply has to take notice and help in this regard and get way from the
notion that "they don't want more technical stuff" for QST
(this is an issue that I'll go in some other time.)

There were some good questions raised about where these new modes
are leading with respect to band planning etc. For example, should a wide
band digital signal be down in the narrow band allocations competing with
CW and other narrow-band modes? What will the SSB folks feel if these
signals shows up in "their" allocations? Deep, tricky stuff, but it is going to
have an impact very soon and discussions about it should start
sooner the better.

There was a good amount of audience feedback on HTHELL -- for
some reason it hit a nerve. I also really enjoyed showing off Charles'

"digital voice over HF" project and the sound clips that Charles
provided was very effective in supporting the slide materials.
I provided a list of resources on the web, so don't be surprized
if those become more famous/popular than they already are.

In general, I think the materials went over well -- it was a very receptive
audience and I think they walked away knowing that HF digital is
far from dead.

73,

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: SeaPac HF Digital feedback

From: Lyle Johnson <lylej@azstarnet.com>
Date: Sat, 12 Jun 1999 17:21:28 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-25703-1999.06.12-14.48.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Johan!

>There were some good questions raised about where these new modes
>are leading with respect to band planning etc. For example, should a wide
>band digital signal be down in the narrow band allocations competing with
>CW and other narrow-band modes? What will the SSB folks feel if these
>signals shows up in "their" allocations? Deep, tricky stuff, but it is
going to
>have an impact very soon and discussions about it should start
>sooner the better.

We went around and around on this in the early days of HF packet with the
Digital Systems Committee, etc.

In 1977 the FCC offered us a solution and the ARRL/membership soundly
rejected it. It was based on occupied bandwidth. Today, it is still a
reasonable, though imperfect, solution (what if you want to do spread
spectrum morse code on 20 meters occupying 200 kHz at very low spectral
power density?).

The ARRL reversed itself on "no code" maybe they're ready to accept that
new modes will exist and that we must accomodate them. Amateur radio
exists in part for its contributions tot he radio art, and keeping CW here
and SSB there is not a positive thiing these days.

My 2 cents.

Lyle

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] CLOVER Inventor, Ray Petit, W7GHM, SK

From: Greg Jones <wd5ivd@tapr.org>
Date: Fri, 18 Jun 1999 17:31:22 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "HF SIG list   mailing"<hfsig@tapr.org>
Message-ID: <LYR4070-26497-1999.06.18-17.39.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

SB SPCL @ ARL $ARLX003
ARLX003 CLOVER Inventor, Ray Petit, W7GHM, SK

ZCZC AX03
QST de W1AW
Special Bulletin 3 ARLX003
>From ARRL Headquarters
Newington CT June 18, 1999
To all radio amateurs

SB SPCL ARL ARLX003
ARLX003 CLOVER Inventor, Ray Petit, W7GHM, SK

CLOVER inventor Ray Petit, W7GHM, died June 13, 1999, at his home in
Oak Harbor, Washington. He was 55. According to his close friend Ed
Bixby, AK0X, Petit suffered a stroke in early March caused by a
brain tumor that left him mostly paralyzed. Continuing growth of the
tumor resulted in additional strokes that finally took his life.

CLOVER is a digital communications protocol designed for use on the
HF bands that's found wide application in commercial and amateur
communication.

Petit was well-known and respected within the Amateur Radio digital
community. ''Ray was a real gentleman and he will be missed,'' said
QST Digital Dimensions Editor Stan Horzepa, WA1LOU. An ARRL member
for more than 27 years, Petit had authored several articles for QST
and QEX on CLOVER and coherent CW, among other topics.

Petit is survived by his wife, Joyce, two brothers and a sister.
NNNN
/EX

Greg Jones, WD5IVD   Austin, Texas
wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: CLOVER Inventor, Ray Petit, W7GHM, SK

From: Phil Karn <karn@qualcomm.com>
Date: Fri, 18 Jun 1999 15:52:01 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "karn@qualcomm.com"
 <LYR3433-26497-1999.06.18-17.39.24--KARN#QUALCOMM.COM@lists.tapr.org>
 (message from Greg Jones on Fri, 18 Jun 1999 17:31:22 -0500)
Message-ID: <LYR4070-26503-1999.06.18-17.58.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sigh. I think I only met Ray once, at a hospitality suite at Dayton
quite some years ago. I'm sorry I didn't know him better.

Phil

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: CLOVER Inventor, Ray Petit, W7GHM, SK

From: Lyle Johnson <lylej@azstarnet.com>
Date: Sat, 19 Jun 1999 00:09:28 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-26511-1999.06.18-19.22.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I remember having several conversations with Ray along with Bill Henry of
HAL during the development and testing of the Clover system. He was a
great guy, and a careful investigator of propagation. He loved HF!

He will be missed...

Lyle

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] [tapr-bb] CLOVER Inventor, Ray Petit, W7GHM, SK

From: paul kearney <ei7gm@amsat.org>
Date: Sun, 20 Jun 1999 14:34:25 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "HF SIG list   mailing"<hfsig@tapr.org>
Message-ID: <LYR4070-26695-1999.06.20-10.10.05--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

SB SPCL @ ARL $ARLX003
ARLX003 CLOVER Inventor, Ray Petit, W7GHM, SK

ZCZC AX03
QST de W1AW
Special Bulletin 3 ARLX003
>From ARRL Headquarters
Newington CT June 18, 1999
To all radio amateurs

SB SPCL ARL ARLX003
ARLX003 CLOVER Inventor, Ray Petit, W7GHM, SK

CLOVER inventor Ray Petit, W7GHM, died June 13, 1999, at his home in
Oak Harbor, Washington. He was 55. According to his close friend Ed
Bixby, AK0X, Petit suffered a stroke in early March caused by a
brain tumor that left him mostly paralyzed. Continuing growth of the
tumor resulted in additional strokes that finally took his life.

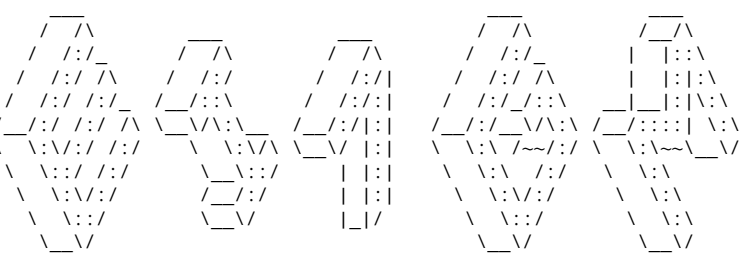
CLOVER is a digital communications protocol designed for use on the
HF bands that's found wide application in commercial and amateur
communication.

Petit was well-known and respected within the Amateur Radio digital
community. ''Ray was a real gentleman and he will be missed,'' said
QST Digital Dimensions Editor Stan Horzepa, WA1LOU. An ARRL member
for more than 27 years, Petit had authored several articles for QST
and QEX on CLOVER and coherent CW, among other topics.

Petit is survived by his wife, Joyce, two brothers and a sister.
NNNN
/EX

Greg Jones, WD5IVD   Austin, Texas
wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd

You are currently subscribed to tapr-bb as: EI7GM@IOL.IE
To unsubscribe send a blank email to leave-tapr-bb-5806A@lists.tapr.org



You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Pictures of H.F ! New Technology ?

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 20 Jun 1999 17:34:38 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-26714-1999.06.20-11.45.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://news.bbc.co.uk/hi/english/sci/tech/newsid_373000/373810.stm

Damn that is what I was thinking of doing next......

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

July 1999

Original source file: hfsig.9907
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9907

1. [hfsig] 1999 ARRL and TAPR Digital Communications Conference

From: Greg Jones <wd5ivd@tapr.org>
Date: Thu, 1 Jul 1999 14:00:26 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-28283-1999.07.01-14.10.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

1999 ARRL and TAPR Digital Communications Conference
September 24-26, 1999
Phoenix, Arizona

Web: http://www.tapr.org/dcc

It's that time again! Time to start making your travel plans and
thinking about what to publish for the upcoming 18th Annual ARRL
and TAPR Digital Communications Conference.

The 1999 ARRL and TAPR Digital Communications Conference will
be held September 24-26, 1999 in Phoenix, Arizona. This year's
conference location is just minutes away from the Phoenix Sky Harbor
International Airport (PHX).

For full details on the conference, refer to the web page listed above.

Contact TAPR to register for the DCC:

Tucson Amateur Packet Radio
8987-309 E. Tanque Verde Road #337
Tucson, AZ 85749-9399.
phone 940-383-0000, fax 940-566-2544
e-mail tapr@tapr.org, browse http://www.tapr.org

Greg Jones, WD5IVD Austin, Texas
wd5ivd@tapr.org http://www.tapr.org/~wd5ivd

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Polish Windows Help File for Windows SB version 1.06

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 05 Jul 1999 21:25:54 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-28812-1999.07.05-14.33.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new Polish Windows Help File for Windows SB version 1.06 translated by Marek SP7DQR. It's
here:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw106-pl.zip

http://www.kender.es/~edu/download/p31sbw106-pl.zip

Eduardo/EA2BAJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] PSK31SBW 1.07 available.

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 05 Jul 1999 21:26:25 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-28814-1999.07.05-14.33.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This one just has the feature of an option to display all zeros as Ø
(slash-O). This version matched version 1.32 of PSKGNR which displays
outgoing zeros as Ø but transmits them as real ASCII zeros.

The new version is available as usual here:

        ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw107.zip or

        http://www.kender.es/~edu/download/p31sbw107.zip

        Regards

        Eduardo/EA2BAJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Spanish P31SBW107 Help File available

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 09 Jul 1999 20:08:40 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-29427-1999.07.09-13.16.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pauli EA3BLQ has prepared the upgrade help file for the new version of P31SBW

        It's available at:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw107.zip or
http://www.kender.es/~edu/download/p31sbw107.zip

        Edu

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] V.120

From: Charl Cilliers <charlc@grintek.com>
Date: Mon, 12 Jul 1999 09:16:17 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: owner-music-dsp-digest@shoko.calarts.edu]
Message-ID: <LYR4070-29751-1999.07.12-02.25.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was hoping that someone could assist me with the Auto baud detection in
V.120
Could someone please assist me. The specific problem occurs that data is
lost after Auto Baud detection.
I would appreciate any information or guidelines.
Regards
Charl Cilliers

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] UWB technology

From: Alberto di Bene <dibene@usa.net>
Date: Sat, 17 Jul 1999 18:37:12 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-30466-1999.07.17-11.47.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I came across recently to claims of a new technology called UWB (Ultra Wide Band),
patented by a company called Time Domain.
Here is an excerpt of what they claim :

Overview
Time Domain Corporation has developed a revolutionary radio technology, impulse

radio, for wireless
communications. The general characteristics of Time Domain's impulse radios are:
· Ultra-short duration pulses which yield ultrawide bandwidth signals.
· Extremely low power spectral densities.
· Center frequencies typically between 650 MHz and 5 GHz.
· Multi-mile ranges with sub-milliwatt average power levels (even with low gain
antennas).
· Excellent immunity to jamming from other radio systems.

Technology Basics
Time Domain's impulse transmitters emit ultra-short "Gaussian" monocycle pulses with
a tightly controlled
pulse-to-pulse interval. Time Domain has been working with pulse widths of between
1.50 and 0.20
nanoseconds (billionths of a second) and pulse-to-pulse intervals of between one
hundred and one thousand
nanoseconds. These short monocycle pulses are inherently wideband.
The system uses pulse position modulation. The pulse-to-pulse interval is varied on a
pulse-by-pulse basis
in accordance with two components: an information signal and a channel code.
The impulse receiver directly converts the received RF signal into a baseband digital
or an analog output
signal. A front end cross correlator coherently converts the electromagnetic pulse
train to a baseband signal
in one stage. There is no intermediate frequency stage, the elimination of which
greatly reduces
complexity.

The document goes on describing the technique in detail. What I am asking to myself
and to the hfsig community is:
have they reinvented the spread spectrum under another name? Can someone more
knowledgeable than me explain
please what are the conceptual differences between this technique and the spread
spectrum technique that have allowed
them to receive a few dozen of patents on this? Thanks.

Alberto, I2PHD

P.S. Their URL is http://www.time-domain.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: UWB technology

From: Ulf.Kumm@t-online.de (Ulf Kumm)
Date: Sun, 18 Jul 1999 10:38:47 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-30517-1999.07.18-03.52.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Time Domain Corporation has developed a revolutionary radio technology,
impulse
>radio, for wireless communications.
> Ultra-short duration pulses which yield ultrawide bandwidth signals.
...

This technique reminds me to other wideband radio transmitters, using also
short pulses and wideband filters to generate a wide spectrum of rf energy.
It was about one century ago and came from Italy as well. I think of the
fabulous engines of Marconi, Poulsen etc. which might have produced a
spectrum similar to the top-modern UBW mode...

Ulf, DK9SJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: UWB technology

From: Greg Jones <wd5ivd@tapr.org>
Date: Sun, 18 Jul 1999 11:22:10 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-30537-1999.07.18-11.40.58--lyris.hfsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

TAPR filed on the FCC NOI last December regarding. You can see what we
filed along with a group of other compaines.

ftp://ftp.tapr.org/ss/uwg.comment.98-153.pdf

I think you can find more information about UWB from the comment as well as
looking over the compaines that also participater.

Cheers - Greg

>I came across recently to claims of a new technology called UWB (Ultra
>Wide Band),
>patented by a company called Time Domain.
>Here is an excerpt of what they claim :

Greg Jones, WD5IVD   Austin, Texas
wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: UWB technology

From: Alberto di Bene <dibene@usa.net>
Date: Mon, 19 Jul 1999 01:47:37 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-30559-1999.07.18-18.56.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greg,
          thanks for the info. I have read the UWBWG comments, but still is unclear
to me how UWB positions itself against the more traditional spread spectrum.
Sending time-displaced cyclets is not the same thing as sending a full sine wave
convolved with a narrow window function ??
Something is escaping me. If someone is willing to dissipate the fog, all my thanks.

73,
Alberto,   I2PHD

Greg Jones wrote:

> TAPR filed on the FCC NOI last December regarding. You can see what we
> filed along with a group of other compaines.
>
> ftp://ftp.tapr.org/ss/uwg.comment.98-153.pdf
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: UWB technology

From: Anthony Martin <anthony.n.martin@marconicomms.com>
Date: Mon, 19 Jul 1999 21:45:08 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-30694-1999.07.19-15.52.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alberto di Bene wrote:
>
> Greg,
>   thanks for the info. I have read the UWBWG comments, but still is unclear
> to me how UWB positions itself against the more traditional spread spectrum.
> Sending time-displaced cyclets is not the same thing as sending a full sine wave
> convolved with a narrow window function ??
> Something is escaping me. If someone is willing to dissipate the fog, all my thanks.
>

Why not compare that to OFDM modems too?

Take an OFDM modulator and set all the carriers to the same phase.
What you get out of it is the same kind of spike described here.
Change the phase of the carriers a little and the timing of the
spike will shift.

Such waveforms can be band-limited without causing a problem to
the receiver, given that the receiver architecture is appropriate.
This organisation suggests that all spectral content is necessary
from a few MHz to several GHz.

I take the view that all comms systems are the same, they radiate
RF power over some spectrum and collect as much as possible at the
receiver. It's just the way you implement the modulator and
demodulator that makes them different. Waveforms themselves can't
be patented, only the means of generating or detecting them. As almost
any modulation can be produced very efficiently by summing pieces
of the waveform, worthwhile patents on the transmit side are
unlikely except in the way information is coded.

s'funny world, most of us try to avoid extreme peak-to-means like
the plague...

The report to the FCC suggests many differing modulation
methods are UWB, most of which are conventional. The large range
of claims for `the technology' can't be achieved simultaneously
and many are nothing special, simply the result of trading up
to wider BW/ lower power density. Yet it is presented as a
single wondrous new breakthrough invention and the world will
be a worse place without it.

There isn't much analysis yet to predict the performance of
many independent links that are co-located and what performance
is required from receivers and transmitters (linearity, group
delay etc) using the pulse waveform.

Getting such spread-spectrum receivers to give anything like the
theoretical performance expected in the presence of large
interferers typical of HF will require astronomic dynamic
range. It's one of the reasons why there are no military uses of
DS spread-spectrum in the HF band. CDMA mobile phones are only
realisable using (i) power control and (ii) a private band.

I'm still trying to work out where you find 1GHz bandwidths at
``low'' frequencies.

Anyone seen any antennas that work over 1MHz - 1GHz?

IMHO the potential for emissions of this nature to interfere
with medical imaging, radioastronomy and such like seems
significant.

Does anyone know for certain if these `intentional radiators'
would be permissible under European EMC legislation? Communications
units would be considered as TTE (Telecommunications Terminal
Equipment) and subject to type-approval. But units for active
sensing or positioning may be merely `using RF Energy' and
required to meet basic EMC regs. So they may be legal.
Maybe worth a question on sci.engr.electrical.compliance?

My 0.02p

Ant
--
____

A.N.Martin   anthony.n.martin@marconicomms.com   www.marconicomms.com
Snr. Development Engineer   Tel.   01245 353221 x4995
Military Products Engineering   Fax.   01245 275993
Marconi Communications UK, Marconi House, New St. Chelmsford, UK
____

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: UWB technology

From: Alberto di Bene <dibene@usa.net>
Date: Mon, 19 Jul 1999 23:06:20 +0200

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-30702-1999.07.19-16.15.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony Martin wrote:

> ....
> The report to the FCC suggests many differing modulation
> methods are UWB, most of which are conventional. The large range
> of claims for `the technology' can't be achieved simultaneously
> and many are nothing special, simply the result of trading up
> to wider BW/ lower power density. Yet it is presented as a
> single wondrous new breakthrough invention and the world will
> be a worse place without it.
> ....

Anthony,
        thanks for your comments. Glad to see that this "new breakthrough invention" has raised doubts not only on me,
but also on someone more competent and qualified than me in this sector.

Alberto di Bene, I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Re: UWB technology

From: Jaakko Koivuniemi <jaakko@pcna5803.cern.ch>
Date: Tue, 20 Jul 1999 10:48:45 +0200 (CEST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-30792-1999.07.20-03.57.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Anyone seen any antennas that work over 1MHz - 1GHz?

I did not read the proposal very carefully, but was the antenna really
radiative one or just for coupling the near field? The mode seemed to
me only for very short distance applications. Transmitter is easy to
build, but I wonder what kind of receiver is needed (some kind of PLL?).

> IMHO the potential for emissions of this nature to interfere
> with medical imaging, radioastronomy and such like seems
> significant.

Right. Like all pulse width modulation applications widely used today in
power electronics.

--
Jaakko Koivuniemi   ->   Jaakko.Koivuniemi@cern.ch, tel +41 22 76 72942
CERN/EP/COMPASS/Target   http://www.cern.ch
Home institute: Low Temperature Laboratory, Helsinki University of Technology
http://boojum.hut.fi/~jaakko/
oh7bf, f5vgl

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Hints on the DSP4100/2k

From: joao cristovao <jp_cristovao@sapo.pt>
Date: 29 Jul 1999 21:49:24 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: jp_cristovao@sapo.pt
Message-ID: <LYR4070-32064-1999.07.29-15.46.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello!

 I'm a student in university of Algarve (Portugal)

and i'm trying to make a software to send/receive

files using the DSP4100 in CLOVER mode, but i'm

having some problems.

Can any one give me some hints ?

Regards

J.P.

_____
mail.pt, um mail para todos - Gratuito em http://mail.pt/

August 1999

Original source file: hfsig.9908
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9908

1. [hfsig] An all software HF/weak signal modem

From: Robert McGwier <rwmcgwier@home.com>
Date: Mon, 02 Aug 1999 03:31:10 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: linux@tapr.or, amsat-bb@amsat.org
Message-ID: <LYR4070-32567-1999.08.02-02.42.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes Virginia, I am alive and well.

I have just gotten working a software implementation of
Mil. Std. 188-110-A1 modem using Soundblaster cards
and linux machines. You must have a linux sound
system driver (using /dev/dsp) in order for this
to work. It works in all modes, all speeds.
(75 bps-4800 bps, short and long interleavers),
it has a mode that is not in the mil-std that is
suitable for AX.25 and is an emulation but not a copy
of the Rohde & Schwarz modifications to the Mil
Std. and used in the their products. They
use R&S-HDLC, I will use HDLC and the AX.25
system in linux. This is NOT compatible with their
stuff because I don't want to fool with their proprietary
stuff but uses some of their approaches.

I will unleash it at the ARRL/TAPR DCC:

http://www.tapr.org/dcc

and there will be a paper in the proceedings with all of
the hairy gory details.

It will be distributed with a Gnu P.L.   It is based on
new work done by me extending work done by Nikias,
et. al. on using the EM algorithm to do simultaneous
channel parameter estimation and data estimation
in a near optimal fashion. This escapes the Harris
patent since it is not an equalizer at all. It makes
no attempt to equalize. For those unfamiliar with the
EM algorithm, I will give a good bibliography in the
proceedings paper. The EM algorithm was invented
and proven to work at the place I work in the mid
60's but is still drifting into widespread usage even
after Bell Labs made such a big fuss over it in
Rabiner's shop.

The last trick after getting symbol probabilities out of
the channel in a great fashion, is decoding. The
code makes extensive use of these probabilities and
the signal structure (8 psk, Grey coded, etc.) to
estimate soft decisions on the bits which are then
permuted back to the original order (deinterleaved)
and fed into the ka9q decoder (thanks Phil!).

It easily runs real time on a 100 Mhz linux pentium.
On my dec alpha, running on a file, it can demod
203 second transmission in 9 seconds.

I will support anyone who wishes to port it to Windoze
and I have the Visual development tools to help, I
just don't want to learn directX, at this time (though
my kids do). I will start giving it away on the TAPR
site after I finish three things:

(1) Cleaning up my mess so that others can read it.
(2) Fixing the performance of the "cut-in" demanded by the standard
(3) Making an implementation improvement in the correlation for
     known symbols and their use in frequency offset calculations.

See you in Phoenix.

Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: An all software HF/weak signal modem

From: Alexander Kurpiers <a.kurpiers@uet.tu-darmstadt.de>
Date: Mon, 02 Aug 1999 09:55:03 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32569-1999.08.02-03.03.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert McGwier wrote:

Congrats! This seems to be a big thing. We now have to possibility to
use a proven and good working system for amateur radio use (and not have
to use less capable and propriety systems like Pactor II or Clover).
Maybe this will lead to some mailbox store & forward to be done on
amateur radio HF and not on internet ...

> and there will be a paper in the proceedings with all of
> the hairy gory details.
>
> It will be distributed with a Gnu P.L. It is based on
> new work done by me extending work done by Nikias,
> et. al. on using the EM algorithm to do simultaneous
> channel parameter estimation and data estimation
> in a near optimal fashion. This escapes the Harris

So you used the idea of doing the channel parameter estimation using
near ML algorithms...

Is it possible to get the paper online? I will not have the time (and
money) to join the DCC.

About AX.25: Matthias Welwarsky DG2FEF (dg2fef@afthd.tu-darmstadt.de) is
currently reworking the kernel AX.25 and has done a quite capable AX.25
to TCP/IP coupler with protocol booster, that might be well suited for
the bad HF channel. Have a look at
http://dl0td.afthd.tu-darmstadt.de/~dg2fef/ax25/features.html

73´ Alexander

--
-------------------------------+---------------------------------------
| Alexander F. Kurpiers |
|
| Institut fuer Uebertragungs- | Voice: +49-6151-162369
|
| technik u. Elektroakustik | Fax : +49-6151-165545
|
| Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
|
| D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0zdf.#rpl.deu.eu
|
-------------------------------+---------------------------------------

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: An all software HF/weak signal modem

From: Robert McGwier <rwmcgwier@home.com>
Date: Mon, 02 Aug 1999 09:49:22 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32606-1999.08.02-09.06.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:55 AM 8/2/99 +0200, Alexander Kurpiers wrote:
>Robert McGwier wrote:
>
>
>So you used the idea of doing the channel parameter estimation using
>near ML algorithms...

Yes, the total likelihood is approximated. It will produced better
results than equalization (I have tested this more times than

I can count ;-)!   ). and the algorithm is much cheaper than
the viterbi algorithm, which it most resembles. However,
it does both forwards and backwards and computes the
a posteriori conditional probabilities of the data symbols
given all of the observations. In our case, since there are
probes (known data) transmitted in every case but 75 bps,
this calculation is restricted to the region from one set of
probes to the next and then reestimation of the parameters
is done as mentioned.

>
>
>Is it possible to get the paper online? I will not have the time (and
>money) to join the DCC.

I will include the paper in the tgz and zip file I put in the TAPR ftp site
after I am done. My note is a little preliminary in that I will most
likely not put it up before the conference. I wanted people to know
that I would be doing it at the conference in case someone might
then decide to go because of this and it takes time to go to
one of these things.

Bob

>
>About AX.25: Matthias Welwarsky DG2FEF (dg2fef@afthd.tu-darmstadt.de) is
>currently reworking the kernel AX.25 and has done a quite capable AX.25
>to TCP/IP coupler with protocol booster, that might be well suited for
>the bad HF channel. Have a look at
>http://dl0td.afthd.tu-darmstadt.de/~dg2fef/ax25/features.html

Thanks for the tip. I run linux 2.2.10 (I just survived my first
kernel rebuild). His work is a little preliminary for me to use
since he has broken a bunch of the most popular of the
utilities but it is very interesting.

>
>73´ Alexander
>
>--
>*-------------------------------+---------------------------------------*
>| Alexander F. Kurpiers |
>|
>| Institut fuer Uebertragungs- | Voice: +49-6151-162369
>|
>| technik u. Elektroakustik | Fax : +49-6151-165545
>|
>| Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
>|
>| D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0zdf.#rpl.deu.eu
>|
>*-------------------------------+---------------------------------------*

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: An all software HF/weak signal modem

From: Charles Brain <chbrain@dircon.co.uk>
Date: Mon, 02 Aug 1999 16:15:36 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32629-1999.08.02-10.31.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert McGwier wrote:

> likely not put it up before the conference. I wanted people to know
> that I would be doing it at the conference in case someone might
> then decide to go because of this and it takes time to go to
> one of these things.

Hello Bob,

I would like to add my congratulations, I will be very interested in
hearing your presentation, I might even get some fresh ideas for the
Stanag 4529 code I am working on (if I can understand your talk).

For the information of others.
I emailed my paper to the ARRL on my digital voice system last friday, so
hopefully that should appear in the proceedings. I was thinking of doing
another one on my Win95 ALE controller but that can keep for another time.

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Further stuff for the DCC

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Mon, 2 Aug 1999 08:29:58 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32630-1999.08.02-10.38.04--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Folks,

There you have it ... seems like HF digital topics will be
hot at the upcoming DCC.

I have a fairly heavy paper on HF channel simulation for the SHARC
DSP EVM that I already submitted. Also planning on showing off a pair
of "new" Motorola 56K-based HF modems working through the
SHARC channel simulator.

If things work out, and there is a time slot available, I have
an introductory presentation on the new modes: PSK31, CBPSK,
MTHELL, MT63, and digital voice.

Charles, G4GUO, are planning on being there too and we might
see his voice over HF digital being demo'ed.

Bob McGwier plans on presenting a heavy-duty bit of work on a MIL STD
modem that runs on Linux. That would be an interesting one to watch.

TAPR is busy putting together a very worthwhile program for
the DCC, so plan on attending -- this one will be worth it.

73

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: An all software HF/weak signal modem

From: Robert McGwier <rwmcgwier@home.com>
Date: Mon, 02 Aug 1999 20:46:29 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32689-1999.08.02-19.57.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

PLEASE, be my guest and add Stanag versions of this to the code and I
will be most supportive. It will require you to implement the convolutional
deinterleaver and modify the size of the probe/data regions and then add
a few more cases ;-) to the decoding algorithms. I will look forward to
having you work on it. Even if you don't understand the maths, forget that,
understand the purpose of the blocks of code and you will be able to add
the Stanag modems to this easily. I just haven't bothered yet.

Bob

At 04:15 PM 8/2/99 +0100, you wrote:
>
>
>Robert McGwier wrote:
>
>> likely not put it up before the conference. I wanted people to know
>> that I would be doing it at the conference in case someone might
>> then decide to go because of this and it takes time to go to
>> one of these things.
>
>Hello Bob,

>
>I would like to add my congratulations, I will be very interested in
>hearing your presentation, I might even get some fresh ideas for the
>Stanag 4529 code I am working on (if I can understand your talk).
>
>For the information of others.
>I emailed my paper to the ARRL on my digital voice system last friday, so
>hopefully that should appear in the proceedings. I was thinking of doing
>another one on my Win95 ALE controller but that can keep for another time.
>
>- Charles G4GUO
>
>---
>You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: An all software HF/weak signal modem

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 03 Aug 1999 08:34:00 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32764-1999.08.03-02.50.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert McGwier wrote:
>
> PLEASE, be my guest and add Stanag versions of this to the code and I

Hello Bob,

I have written my code in a fairly modular fashion, so it should not be too difficult
to cut and paste it into your stuff. My copy of the Stanag is a bit smudged and the page
describing the convolutional interleaver is almost unreadable, but I think I have managed
to implement it ok. It certainly interleaves/deinterleaves fine. Suprisingly all the text books
I have mention convolutional interleavers, they then all go on to describe block interleavers!

My intentions were to produce a Windows DLL so that other people can simply integrate it
into their own code. All the windows sound handling stuff is already in there, I have
used waveIn and waveOut calls rather than DirectX, I think the wave stuff is being
deprecated by Microsoft, but I really can't be bothered to wade through all the Microsoft
documentation to figure out how to use Direct Sound.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: An all software HF/weak signal modem

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Tue, 03 Aug 1999 14:50:30 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32772-1999.08.03-07.59.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles Brain wrote:

> used waveIn and waveOut calls rather than DirectX, I think the wave stuff is being
> deprecated by Microsoft, but I really can't be bothered to wade through all the Microsoft
> documentation to figure out how to use Direct Sound.

The problem IMO with DirectX is that there seem to be no full duplex capable
DX drivers (waveIO seems to be full duplex capable...) I've tried with several
soundcards that can do fullduplex under Linux, none of them could under
Windows/DirectX6.1 (I've tried a CS4236 card, and 2 SB PCI models).

If anyone has found a DirectX full duplex capable soundcards (you can try this
eg. with FDFILTER.EXE from the DirectX SDK), please speak up.

> My intentions were to produce a Windows DLL so that other people can simply integrate it
> into their own code. All the windows sound handling stuff is already in there, I have

I've got some (DirectX) cross compilation stuff, that might make it easy
to produce both a Win32 DLL and Linux binaries. It uses GNU autoconf/automake.

Tom

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: An all software HF/weak signal modem

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 03 Aug 1999 14:18:47 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32774-1999.08.03-08.35.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thomas Sailer wrote:
>
> Charles Brain wrote:
>
> The problem IMO with DirectX is that there seem to be no full duplex capable
> DX drivers (waveIO seems to be full duplex capable...) I've tried with several
> soundcards that can do fullduplex under Linux, none of them could under
> Windows/DirectX6.1 (I've tried a CS4236 card, and 2 SB PCI models).
>

Thats interesting Tom, maybe I will stick with waveIO. I can do fullduplex
but like everying windows you have to be very careful. Its not re-entrant, so you
can't make wave calls from the wave call-back procedures and some calls that fail can
cause exceptions. For example I tried setting a 16/8 bit card to full duplex 16/16
naturally it failed when I tried to open the second channel. Not only did it fail
but crashed the OS as well! Another good one is trying to unprepare headers that have not been
pepared, the docs say it should return a failure code, what in fact happens is that the Kernel
also reports a memory exception.

> I've got some (DirectX) cross compilation stuff, that might make it easy
> to produce both a Win32 DLL and Linux binaries. It uses GNU autoconf/automake.

I have arranged my sound stuff to look a bit like a unix block io device. :-)

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: An all software HF/weak signal modem

From: Robert McGwier <rwmcgwier@home.com>
Date: Tue, 03 Aug 1999 11:19:40 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32789-1999.08.03-10.30.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I understand your feelings completely. That is the very reason I
decided to do it first time on a linux box. While there have been
hassles with all of the competing factions vying for control of
the sound devices (enlightenment sound daemon being the
worst one yet), it is absolutely trivial to program the sound card.
And what is with this Stanag description anyway? It took me
a while to figure it out and then I said, later! Just a clever
way to get you decoding a bit faster through the interleaver
and probably not necessary but . . . .

The rest of the code outside the sound stuff however is a bit
more difficult ;-).

My code is exceedingly modular. I have gone from writing
single routine state machines (holdover from my assembly
and early dsp days) to subroutine based modularized code.
When you get to tens of thousands of lines of code, it
pretty much demands it.

Bob

At 08:34 AM 8/3/99 +0100, you wrote:
>
>
>Robert McGwier wrote:
>>

>> PLEASE, be my guest and add Stanag versions of this to the code and I
>
>Hello Bob,
>
>I have written my code in a fairly modular fashion, so it should not be too
>difficult
>to cut and paste it into your stuff. My copy of the Stanag is a bit smudged
>and the page
>describing the convolutional interleaver is almost unreadable, but I think I
>have managed
>to implement it ok. It certainly interleaves/deinterleaves fine. Suprisingly
>all the text books
>I have mention convolutional interleavers, they then all go on to describe
>block interleavers!
>
>My intentions were to produce a Windows DLL so that other people can simply
>integrate it
>into their own code. All the windows sound handling stuff is already in
>there, I have
>used waveIn and waveOut calls rather than DirectX, I think the wave stuff is
>being
>deprecated by Microsoft, but I really can't be bothered to wade through all
>the Microsoft
>documentation to figure out how to use Direct Sound.
>
>- Charles
>
>
>---
>You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Italian PSK31 .doc file and more.

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Wed, 04 Aug 1999 23:30:44 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32960-1999.08.04-16.39.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have somewhat updated the PSK31 homepage.

- I have added 2 interesting pages by Volker DH7UAF in German about PSK31SBW and MixW32 in links page.
- I have added a pointer to Nick UT2UZ Homepage.
- I have added a full blown indexed search for the whole PSK31 Mailing list archive, it's available from
 the mailing list page or directly at:

http://aintel.bi.ehu.es/psk31listsearch.html

- I have added a Word for Windows .doc file that contains the PSK31SBW helpfile in Italian by
Eduardo Alcolado I5PAC, that has been supplied by Antonio Alcolado EA1MV mailto:alcolado@redestb.es . If
 somebody is willing to convert it in .HLP format this would be fine. The file is at:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw106doc-it.zip or
http://www.kender.es/~edu/download/p31sbw106doc-it.zip

- I have also automated the subscribing process, now, it's a 2 step process, you send a message
for subscribing, majordomo sends you a message that you have to succesfully receive and reply.

Hope you will like it.

Eduardo/EA2BAJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Help needed locating paper

From: forrerj@peak.org (Johan Forrer)
Date: Mon, 09 Aug 1999 20:49:46 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-33557-1999.08.09-22.55.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

I wonder if there is a kind soul that may be so kind to help me
locate a copy of a paper. Our library stopped carrying this journal
in 1965!

Title is:
L. Vogel and J. Hoffmeyer. A model for wideband HF propagation channels.
Radio Science 28(6):1131-1142, Nov. 1993.

Apparently another approach for wide band HF channel simulation.
Is somewhat similar to the Watterson model for narrow-band channels,
but different distributions thus not quite Rayleigh in nature.

Thanks very much in advance.

73,

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: Help needed locating paper

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Tue, 10 Aug 1999 12:26:30 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-33585-1999.08.10-05.35.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan Forrer wrote:

> Title is:
> L. Vogel and J. Hoffmeyer. A model for wideband HF propagation channels.
> Radio Science 28(6):1131-1142, Nov. 1993.

Our library only has the years 64 and 65...

Tom

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] New family of devices from Analog Devices

From: "Willmore, David" <WILD4@aerial1.com>
Date: Tue, 10 Aug 1999 12:01:37 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-33619-1999.08.10-12.10.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

All,

I just got an info packet from Analog Devices about a new family of analog
I/O integrated with DSP type of chips that they're launching. They have an
introductory offer of an eval board for $50. It's a two in, two out device.
It's got a microphone, a mic-in line, two other input lines for input. For
output, it has a 8-ohm speaker and two line outputs. It looks like most of
the normal serial port type of connections are pinned out to some kind of
connector. There are several Leds and switches on the board as well as 4Mb
of flash. It's supposed to interface to a computer via a serial port.
Looks quite interesting. Analog has a page for it at:

http://www.analog.com/dspConverter

and avnet has the board offer for $50 at:

http://www.em.avnet.com/semi/marketing/ana-19990720semw-req.html

I don't work with/for any of these people, I just thought this might be
useful to some people on this group.

Cheers,
David

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] PSK31 Help file in Italian

From: Eduardo Jacob <edu@kender.es>
Date: Tue, 24 Aug 1999 00:36:49 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-35814-1999.08.23-17.47.29--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new Italian Windows Help File for Windows SB version 1.07 translated by Eduardo Alcolado I5PAC, and assembled in .HLP format by Pauli EA3BLQ. The file is here

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw107-it.zip and here

http://www.kender.es/~edu/download/p31sbw107-it.zip

Even if you managed to put the program at work without understanding anything in the Help file, you can allways get some very interesting concepts from the help file.

Eduardo/EA2BAJ

PD: I think than now we only miss a French and and a German Help files to answer most questions about PSK31.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

September 1999

Original source file: hfsig.9909
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9909

1. [hfsig] PSK31SBW Version 1.08

From: Eduardo Jacob <edu@kender.es>
Date: Wed, 01 Sep 1999 22:24:55 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-37629-1999.09.01-15.42.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The latest version 1.08 of PSK31SBW has a new feature which will help users to give accurate and useful signal quality reports to other PSK31 users.

When tuned to a PSK31 signal which is idling, the phase scope circle shows a decibel figure which is a measurement of the distortion of the received signal. So long as the signal is strong enough above the band noise and the QRM on each side, this decibel report can be passed to the other station to help him check that his audio drive levels are correct and the transmitter is not likely to be causing interference. This decibel readout is the same two-tone third-order intermodulation measurement that is used to test SSB linear amplifiers, so PSK31SBW v1.08 can also be used by SSB operators to check their linearity.

73
Peter

Available as usual at:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw108.zip or

http://www.kender.es/~edu/download/p31sbw108.zip

Regards

Eduardo/EA2BAJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] PSK31 Help file in Italian

From: Eduardo Jacob <edu@kender.es>
Date: Fri, 10 Sep 1999 23:28:15 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-38942-1999.09.10-16.39.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new Spanish Windows Help File for Windows SB version 1.08 translated and assembled in .HLP format by Pauli EA3BLQ. The file is here

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw108-es.zip and here

http://www.kender.es/~edu/download/p31sbw108-es.zip

Even if you managed to put the program at work without understanding anything in the Help file, you can allways get some very interesting concepts from the help file.

Eduardo/EA2BAJ

PD: I think than now we only miss a French and and a German Help files to answer most questions about PSK31.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] PSK31 Help file in Spanish - no Italian

From: Eduardo Jacob <edu@kender.es>
Date: Sat, 11 Sep 1999 17:13:23 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-39032-1999.09.11-10.24.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I recycled the message and the subject wasn't rigth...

There is a new Spanish Windows Help File for Windows SB version 1.08 translated and assembled in .HLP format by Pauli EA3BLQ. The file is here

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw108-es.zip and here

http://www.kender.es/~edu/download/p31sbw108-es.zip

Even if you managed to put the program at work without understanding anything in the Help file, you can allways get some very interesting concepts from the help file.

Eduardo/EA2BAJ

PD: I think than now we only miss a French and and a German Help files to answer most questions about PSK31.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Magellan OEM 5000

From: Alberto di Bene <dibene@usa.net>
Date: Mon, 13 Sep 1999 11:17:21 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-39328-1999.09.13-04.29.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I found at a local ham fair a Magellan OEM 5000 naked board,
sold as new, with only a scant sheet of paper describing some
pin<->signal correspondence.
My question is : is this board any good for building with it a reference
signal generator ? Someone told me it has a 1 kHz output, which,
if true, could be used to lock a Xtal oscillator, which in turn could serve
as a clock for a DDS. This should be a stable signal generator, theoretically
as stable as the rubidium-controlled signal transmitted by the GPS satellites.

Any thoughts on this ? Any source of info for the Magellan OEM 5000 ?
Thanks in advance,

Alberto, I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: Magellan OEM 5000

From: Johan Forrer <forrerj@peak.org>
Date: Mon, 13 Sep 1999 08:59:24 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-39372-1999.09.13-11.09.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alberto,

I know that some GPS units that I have played
with has a 1 pps output. This was used in the QST
frequency reference article to lock an HF oscillator.
I'm not aware of 1kHz output though.

You then need a very good oscillator; i.e., one that has
low phase noise, and is very very stable -- it needs to be
tuned/corrected for very small offsets. Feedback to this
oscillator is indirectly controlled from the 1 pps signal off
the GPS receiver -- best is to get the QST article if you
have not yet looked at that.

A local ham that I know uses this approach to get within
a couple of Hz at GHz frequencies. They, like us HF folks,
need good frequency accuracy/stability to dig weak signals
out of noise using demodulators quite similar to what we
use on HF. I was shown plots of where this GPS-driven
reference was compared against a Rubidium standard and it
appeared (to me) as if it was as good and costed a lot less.

There are some very interesting possiblities for HF digital
applications if such time/frequency references are available.
It is not trivial --- that master oscillator still is a sticky
thing to tackle.

Good luck!

Johan, KC7WW

On Mon, 13 Sep 1999, Alberto di Bene wrote:

> I found at a local ham fair a Magellan OEM 5000 naked board,
> sold as new, with only a scant sheet of paper describing some
> pin<->signal correspondence.
> My question is : is this board any good for building with it a reference
> signal generator ? Someone told me it has a 1 kHz output, which,
> if true, could be used to lock a Xtal oscillator, which in turn could serve
> as a clock for a DDS. This should be a stable signal generator, theoretically
> as stable as the rubidium-controlled signal transmitted by the GPS satellites.
>
> Any thoughts on this ? Any source of info for the Magellan OEM 5000 ?
> Thanks in advance,
>
> Alberto, I2PHD
>
>
>
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] New version of PSK31 for the EVM on Windows

From: Eduardo Jacob <edu@kender.es>
Date: Mon, 13 Sep 1999 23:32:44 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-39425-1999.09.13-16.45.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The DSP56002EVM version of PSK31 has now been upgraded to include a
decibel readout of the intermodulation distortion on received idle
signals, exactly like the readout recently introduced on the PSK31SBW
program.

The new version 1.25 is available as usual here:

ftp://det.bi.ehu.es/pub/ham/psk31/p31evw125.zip or

http://www.kender.es/~edu/download/p31evw125.zip

        Eduardo

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Magellan OEM 5000

From: Alberto di Bene <dibene@usa.net>
Date: Tue, 14 Sep 1999 10:56:24 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-39502-1999.09.14-04.08.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan and Gary,
                thanks for your comments on the Magellan board.
It looks like the whole thing is a bit less straghtforward than I had expected.
Nevertheless I will buy that board (the price is the local currency equivalent
of about 50 USD). I am sure that in the course of the project I will learn
something, so in any case it won't be wasted money...:-)

About the oscillator to lock to the GPS output, I had thought to use
a surplus Collins Xtal oven unit at 10 MHz I have idling in the junk box.
Then I could use this 10 MHz signal as clock to an Analog Devices DDS,
controlled by a PIC, from which to derive any frequency wanted.

The ultimate goal is to build a direct conversion receiver, then using
the processing power of a Pentium to implement the DSP algorithms
needed for single sideband reception and the very narrow filtering
necessary for reception of below-the-noise signals at 137 kHz.

Could you please tell me which issue of QST had the article you mention ?
I have a friend that has a subscription to QST, so I could ask him to make
a few photocopies.

Thanks again for your input,

Alberto   I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Magellan OEM 5000

From: forrerj@peak.org (Johan Forrer)
Date: Tue, 14 Sep 1999 20:15:51 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-39623-1999.09.14-22.23.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alberto,

See QST of July 1998 page37.

A&A Engineering offers PCB's and programmed
PIC's if you want to build the kit. Otherwise, it is not all
that involved and someone with your expertise would
have no problem doing it yourself.

73,

Johan

>Johan and Gary,
>   thanks for your comments on the Magellan board.
>It looks like the whole thing is a bit less straghtforward than I had expected.
>Nevertheless I will buy that board (the price is the local currency equivalent
>of about 50 USD). I am sure that in the course of the project I will learn
>something, so in any case it won't be wasted money...:-)
>
>About the oscillator to lock to the GPS output, I had thought to use
>a surplus Collins Xtal oven unit at 10 MHz I have idling in the junk box.
>Then I could use this 10 MHz signal as clock to an Analog Devices DDS,
>controlled by a PIC, from which to derive any frequency wanted.
>The ultimate goal is to build a direct conversion receiver, then using
>the processing power of a Pentium to implement the DSP algorithms
>needed for single sideband reception and the very narrow filtering
>necessary for reception of below-the-noise signals at 137 kHz.
>
>Could you please tell me which issue of QST had the article you mention ?
>I have a friend that has a subscription to QST, so I could ask him to make
>a few photocopies.
>
>Thanks again for your input,
>
>Alberto   I2PHD
>
>
>
>---
>You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] HF Digital Activities at DCC

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Wed, 15 Sep 1999 09:20:40 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-39709-1999.09.15-11.30.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FYI:

For those attending the DCC or still thinking about it;
Its next weekend (24-26 September) and there will be a
significant contribution on HF digital topics. Probably one
of the most intense in a while. These topics are not
only of interest to HF users, but to anyone interested
in innovative techology.

Please see www.tapr.org, right at the top of the page for
a link to the full program of activities.

Besides these activities, there will probably be an informal
HFSIG gathering where you can come and join the informal
discussion on what's happening on the bleeding edge.

-- DSP hardware for HF digital,
-- Sound system for DSP on Windows-based platforms,
-- Sound system for DSP on Linux,
-- Algorithms for high speed HF modems based on single-tone carrier,
            .... based on multiple tones, with/without equalization.
            .... hear what is considered doable with today's hardware.
-- Issues on band planning,
-- The future of narrow-band and wide-band systems.
-- ??? (bring your own topic).

We are fortunate to have great talents gathered from both the US and
overseas, so it will be something to look forward to.

See you in Phoenix.

73,

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] DCC this coming Weekend in Phoenix

From: Greg Jones <wd5ivd@tapr.org>
Date: Sat, 18 Sep 1999 14:40:46 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-40275-1999.09.18-14.54.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don't forget that the 1999 ARRL and TAPR Digital Communications Conference
is being held this next week Sept 24-26 in Phoenix, AZ.

For more details visit: http://www.tapr.org/dcc

The tentative schedule and proceedings abstracts are now available on the
conference page.

Look forward to seeing you at this year's DCC.

Cheers - Greg Jones, WD5IVD

Greg Jones, WD5IVD
        President TAPR (http://www.tapr.org)
        PhD Candidate, Instructional Technology, UT Austin

email: wd5ivd@tapr.org
web: http://www.tapr.org/~wd5ivd

Experience is what you get when you were expecting something else.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Short report on DCC 99

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Mon, 27 Sep 1999 15:20:13 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-41891-1999.09.27-17.31.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

Here is a synopsis of DCC 99 -- please keep in mind that
it is one person's perspective.

First; a word of appreciation to the hosts, and all ARRL and TAPR
folks that worked hard to make the conference possible. It often is
a thankless job, and not everyone always appreciates the amount of work
that goes into organizing an event like this. It was a good venue, well
organized - had plenty for everyone to listen to, learn, participate and
enjoy. I enjoyed being there --- good job!

It was impossible of course to attend everything, so one had to carve
out one's own agenda, so bear in mind that my impressions are biased
towards
digital, and especially, HF-related developments.

I might just mention that there were a number of APRS-related activities
(well attended, I must add) that appears to have good following both --
these
folks are busy developing neat applications in software and
hardware --- this obviously is a big thing.

HF digital materials were covered in the "introductory" presentations as
well
as in the main sessions. In the introductory session the intention was
supposed
to be low key to reflect on the state of a number of popular HF digital
modes.
>From my side of the podium, it was fun to listen to the audience's
feedback ---
evidently, the field of HF digital communications draws folks from many
walks of
life and it truly is a wonderful experience to draw such an audience with
that
caliber of technical expertise. Hopefully there was plenty of technical
entertainment
for those creative minds.

The Saturday afternoon sessions contained several highlights:

 - We enjoyed an excellent talk on digital voice by Charles Brain (G4GUO),
   (he tells us it was impromptu); the path around patents, chips and
   customs and regulatory issues - Implementation etc. An examle of his
   experimental efforts to use this on HF was demonstrated and the results
   was quite remarkable.

 - Eduardo Jacob (EA4BAJ), (the fellow that promotes and runs the PSK31
   web site) shared his experiences on the growth and coming of age of
PSK31 - what
   makes such a new technology evolve and become main stream - the role
that the
   Internet played in all of this.

 - Bob McGwier's (N4HY) energetic talk on his work on implementing a MIL
STD 188
   serial tone modem on the Linux platform (using a sound card for I/O)
was a good
   one. I found the approach taken for channel equalization interesting.
Unfortunately,
   Bob's demo got cut short due to an overheated overhead projector, but
afterwards we
   saw a demo of the system in action. This one has a lot of potential and
we are
   certainly wish Bob well on his efforts in releasing the source code
under an open
   source, GPL license.

 - I summarized work done on a low-cost HF channel simulator. For those

interested, the paper is available on my web page
(www.peak.org/~forrerj).
   This paper summarizes and formalizes contributions from several
individuals -
   without those contributions I don't think I could have done this.
   FYI: I need to do a little bit more work on the simulator code in order
   to release it under a GPL license, but promise to do that soon.
Basically, the
   present hardware/software was designed for real time simulation, i.e.,
where
   everything possible was done to reduce the introduction of unwanted
processing
   delays, like delays in FIR structures etc. This is so that folks can do
testing
   in tight ARQ timing circuits. The GPL version will not be dependent on
the
   special-purpose DSP and the intent is to be able to use a PC and sound
card. This
   code should be ideal for educational purposes.

After dinner, we had some more hands-on experience with Charles' digital
voice
board -- I was very much impressed with the quality of recovered voice,
even at
the low data rate that it was utilizing -- looking forward to being able
to experiment
with such a device in the near future, which we were told, would be
forthcoming as a
TAPR kit shortly.

Sunday was the PIC seminar. Steve Bible and his guys did a great job to
getting us
started using these chips. Pretty much got me to a point where I can start
doing
some useful things with these parts myself. Thanks Steve!

Of course, there was plenty of opportunity to meet old friends and catch
up with
what they are working on. I was fortunate to meet and talk with Bill Henry
from
HAL -- Bill shared some interesting experiences regarding usage of HF
channel
simulators; that one need to be careful to not optimize entirely on
simulator
environments -- often the simulator has a personality of it's own.

In summary --- it was hectic, I still feel like a tape machine on fast
forward where
the weekend just zipped by in a flash!

73,

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] List of users for FS1052

From: Robert McGwier <rwmcgwier@home.com>
Date: Tue, 28 Sep 1999 07:43:33 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-42031-1999.09.28-06.55.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The very incomplete list of users I gave for FS1052
(Mil. Std. 188-110A) at DCC '99 came from and can
be augmented from any one of a number of Shortwave
listener's "secret list" publications or URL's. I
got the short list I use for testing on one of these
URL's in Europe. I blew away my netscape and
have lost the URL. Maybe I will be able to search
it out again if there is any interest.

I expect the approval process for release of both
the binaries and source to continue until about
the end of the year.

Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

October 1999

Original source file: hfsig.9910
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9910

1. [hfsig] N4HY DSP modem codes available

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Fri, 8 Oct 1999 09:32:13 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-44062-1999.10.08-11.43.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi folks,

To let you know that Tim has moved Bob's code package
to the DSP download area. Look for it at:

ftp://ftp.tapr.org/dsp/Motorola/dsp56001/dsp2232/n4hy.zip

What it is:

A substantial collection of various FSK, PSK, and other FAX-like
DSP modem source code that was developed by Bob McGwier, N4HY
for the AEA DSP2232 family modems. This code package is made
available to the amateur community with the blessings of
Timewave, who now manufacture, sells, and supports AEA
DSP2232 modems.

As always, the disclaimer: What you see is what you get.
There is no warranty -- use at your own risk, but we
welcome and encourages folks to share experiences and
efforts so that we can all learn something along the way.

Thanks to Bob and Timewave!

Enjoy.

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: N4HY DSP modem codes available

From: Robert McGwier <rwmcgwier@home.com>
Date: Fri, 08 Oct 1999 19:49:51 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-44089-1999.10.08-19.01.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I suggest that as we the community make new developments,
we do our best to keep Timewave informed. They
have been most gracious. Some of this code is great,
some of it stinks. Please do not hold back if you find
a better way to do things. I urge the porting of this code
to the EVM56002 as well as modification for use on
other platforms.

Bob

At 09:32 AM 10/08/1999 -0700, you wrote:
>Hi folks,
>
>To let you know that Tim has moved Bob's code package
>to the DSP download area. Look for it at:
>
>ftp://ftp.tapr.org/dsp/Motorola/dsp56001/dsp2232/n4hy.zip
>
>What it is:
>-----------
>
>A substantial collection of various FSK, PSK, and other FAX-like
>DSP modem source code that was developed by Bob McGwier, N4HY

>for the AEA DSP2232 family modems. This code package is made
>available to the amateur community with the blessings of
>Timewave, who now manufacture, sells, and supports AEA
>DSP2232 modems.
>
>As always, the disclaimer: What you see is what you get.
>There is no warranty -- use at your own risk, but we
>welcome and encourages folks to share experiences and
>efforts so that we can all learn something along the way.
>
>Thanks to Bob and Timewave!
>
>Enjoy.
>
>Johan, KC7WW
>
>
>---
>You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Lest there be a misunderstanding

From: Robert McGwier <rwmcgwier@home.com>
Date: Fri, 08 Oct 1999 20:07:13 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-44092-1999.10.08-19.19.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just in case someone (Harold F) misunderstands,
this code does not include my recent work on
FS1052. The work mentioned by Johan is 10 year
old work I did for the various AEA Packratt's.

The work on the FS1052 stuff continues to move
forward. Paperwork to make sure no proprietary
materials from my company are involved was
submitted today. The document source will
follow that to the same place and then we'll
be making another announcement.

(FS1052 == Mil Std 188-111A, the work
discussed here is A1 and NOT A3).

Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: Lest there be a misunderstanding

From: heckel400@kingfmmail.com
Date: Fri, 8 Oct 1999 19:35:09 -0500 (CDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: hfsig@tapr.org
Message-ID: <LYR4070-44094-1999.10.08-19.47.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Lest there be some misunderstanding:

 There is a picture of Dr Robert McGwier in the
Dictionary by the definition of "VAPORWARE", thanks to
his contribution to amateur radio in conjunction with
his work with the DSP-x232.

Thanks BOB!

Guy Mallery's home page
http://home.pacbell.net/wa2msu

....
Get your own free email account from

http://www.king.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: Lest there be a misunderstanding

From: "Harold H. Fink" <hhfink@bellatlantic.net>
Date: Sat, 09 Oct 1999 20:52:11 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-44194-1999.10.09-20.04.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

heckel400@kingfmmail.com wrote:
>
> Lest there be some misunderstanding:
>
> There is a picture of Dr Robert McGwier in the
> Dictionary by the definition of "VAPORWARE", thanks to
> his contribution to amateur radio in conjunction with
> his work with the DSP-x232.
>

Guy,

Not only are you being cruel, you're flaunting your
ignorance!
The digital amateur world is indebted to "Dr. Bob" for a
great
many advances we tend to think of as "normal" today. I
suggest
you take a little time to check up on your history before
you
spout off again.

Harold F

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Freqs

From: Robert McGwier <rwmcgwier@home.com>
Date: Wed, 13 Oct 1999 09:22:49 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-44761-1999.10.13-08.35.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For those of you with the Klingenfuss Publications, 1999
Superfrequency List, which is available from ARRL,
you can find the US Mil freqs, PRC HF MFA frequencies,
and several other MFA freqs etc. for FS1052 by looking for

USB Mil-Std-110A1 modem
or

LSB Mil-Std-110A1 modem

or MS110A1

in the modulation formats in the logs. MFA stands for
Ministry of Foreign Affairs, a bunch of the UNID stuff
is really interesting. I highly recommend these CD's
for anyone planning on doing a lot of fooling around
on HF as they are a gold mine of information for the
developer, listener, etc.

Another way to find a boat load of the fancier HF
modems, including FS, Mil-Std, or Stanag modems,
and some proprietary modes as well, is to use
Charles PC-ALE program and find the

Mil-Std-141A ALE

signals which are used to initiate the follow on transfers.

I got a bunch of quesions following the audio upload and
this is note covers the most often asked one.

I apologize for not repeating the questions put to me.
I will go over the real audio and upload to these lists
my best recollection of what the questions were.

OOPS.

Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] DCC recap

From: Greg Jones <wd5ivd@tapr.org>
Date: Thu, 14 Oct 1999 13:03:39 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "HF SIG list mailing"<hfsig@tapr.org>, " Spread Spectrum "<ss@tapr.org>,
" TAPR/AMSAT DSP "<dsp@tapr.org>,
"APRS SIG list mailing"<aprssig@tapr.org>,
"NETSIG list mailing"<netsig@tapr.org>,
"BBS SIG list mailing"<bbssig@tapr.org>,
" tacgps "<tacgps@tapr.org>, aprsnews@tapr.org, mic-e@tapr.org,
TAPR Regional Freq <regional_freq@tapr.org>
Message-ID: <LYR4070-44937-1999.10.14-13.16.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

1999 ARRL and TAPR Digital Communications Conference
September 24-26, 1999
Phoenix, Arizona
Greg Jones, WD5IVD

Another grand Digital Communications Conference! Special thanks go out to the workers at MARC for hosting locally and to PRUG for being our international co-host again. Also, a very special thanks to Geoff Baehr, N6LXA, Chief Network Officer of Sun Microsystems, for attending and giving the dinner talk on Saturday. Steve Stroh, N8GNJ, and Tina Stroh did an excellent job in working the arrangements with the hotel in Phoenix once it was selected. Tina wasn't able to attend because they are in the midst of adopting a child. Congratualtions to Tina and Steve. Sheila Bible was a big help and will be working with Tina in the coming years to help coordinate the conferences as I take a lesser role in the conference. As in the past, audio and photos from the conference will be available on the TAPR web site (http://www.tapr.org/dcc).

Next year's DCC will be hosted in Orlando, FL. The date of the conference should be selected by the end of the year.

The conference started Friday afternoon with the third annual APRS National Symposium moderated by Steve Dimse, K4HG. The symposium was full of talks and projects. During the symposium yet another new mystery hardware project was discussed. This years was a sneak preview provided by Kenwood to all those attending the DCC of their new mobile APRS equipped radio. The following people spoke at the APRS Symposium.

APRSdos and TrakNet update
        Bob Bruninga, WB4APR
MacAPRS/WinAPRS Update
        Keith Sproul, WU2Z
XAPRS
        Keith Sproul, WU2Z
APRS+SA Update
        Brent Hildebrant, KH2Z
Internet and APRS
        Steve Dimse, K4HG
WinCE version
        Rob Wittner, KZ5RW
Kenwood TH-D7 Tricks, Treats, and Tragedies
        Stan Horzepa, WA1LOU
Arizona APRS
        David McCarthy, KC7AYX
APRS ICQ
        Tom Schaefer, NY4I
Microcontrollers and APRS
        Steve Bible, N7HPR
APRS Working Group Update
        John Ackermann, N8UR

The Friday Technical Seminar on HDTV by Allen Finne, KB5SQK was cancelled at the last minute when Allen cound not attend.

Friday night saw the annual DCC social, which was sponsored by PRUG. After the social, PRUG presented a technical paper highlighting their current development. The papers focused on what had been happening with their prototype direct-sequence radio operating in the 2.4 GHz band. This prototype appears to be very well designed from an experimentation point of view.

As with past years, Saturday was split into two strands -- a paper session and a session featuring selected topics. As in previous years, the selected topic strand had fewer topics with more time to present. Four selected topics were presented. Steve Bible, N7HPR, presented an introduction to PICs. Guy Story, KC5GOI, presented an overview to APRS and discussed some of the latest happenings in the mode. Johan Forrer, KC7WW, did an overview and current status on HF communications. Bob Nielsen, W6SWE, did a talk on the current status of Linux in the amateur community. Thanks to all the selected topic speakers for taking the time to present more in-depth materials during the DCC.

The paper sessions included the following talks:
Regulatory Issue and Update
        Dewayne Hendricks, WA8DZP
ARRL Technology Task Force & The Technology Working Group
        Rich Moseson, W2VU
Arizona Packet Radio, Past Present and Future
        Keith Justice, KF7TP & Dan Meredith, N7MRP
APRS Mic-Lite
        Bob Bruninga, WB4APR
APRS for X-Windows (Linux)
        Keith Sproul, WU2Z
Automatic Weather Bulletins via APRS
        Keith Sproul, WU2Z
APRS Generic Digipeating Satellites for HT and Mobile Satellite Communications
        Bob Bruninga, WB4APR
XML and APRS
        Steve Dimse, K4HG
APRN: Automatic Picture Relay Network and SSTV Picture Server
        Keith Sproul, WU2Z & Bob Bruninga, WB4APR
APRS Stand Alone Message Receiver
        Keith Sproul, WU2Z
Proposal for a Spread Spectrum Transponder Payload on the International Space Station
        Matthew Ettus, N2MJI
UWB (Ultra Wide Band) Technology
        Dewayne Hendricks, WA8DZP
Status Report on TAPR 900MHz SS Radio Project
        Tom McDermott, N5EG
A Low-Cost HF Channel Simulator for Testing and Evaluating HF Digital Systems
        Johan Forrer, KC7WW
(Non Technical) Lessons to be learned from the PSK31 Phenomena
        Eduardo Jacob, EA2BAJ
A software Implementation for Federal Standard 1052 (Mil. Std. 188-110A HF Modems)
        Robert McGwier, N4HY
A Practical Approach to Implementing HF Digital Voice in the Amateur Service
        Charles Brain, G4GUO
HamWeb and HamStation
        Dale Puckett, K0HYD

For the banquet speaker, we were very fortunate to have Geoff Baehr, N6LXA, Chief Network Officer of Sun Microsystems. Geoff gave a very interesting and thought-provoking talk on the future of the Internet and networking in general and gave some comments on the future of amateur radio. We were very fortunate to have Geoff attend the conference and much thanks goes to Dewayne Hendricks, WA8DZP, for helping arrange another good banquet talk.

The Sunday morning seminar was a more time-intensive version of last year's introductory session on PIC development. Steve Bible, N7HPR, Steve Dimse, K4HG, John Hansen, W2FS, and Byon Garrabrant, N6BG gave a 5 hour long seminar on PIC development and programming issues. They showed lots of interesting projects and answered a lot of questions from the audience.

Thanks to all those that I missed mentioning who helped with the DCC and I look forward to seeing you next year!

Tucson Amateur Packet Radio

8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
---
e-mail: tapr@tapr.org web: <http://www.tapr.org/>
ftp: ftp.tapr.org
phone: 940-383-0000 fax: 940-565-2544

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Lest there be a misunderstanding

From: Guy Mallery <wa2msu@pacbell.net>
Date: Fri, 15 Oct 1999 17:02:47 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: hhfink@bellatlantic.net
Message-ID: <LYR4070-45199-1999.10.15-19.18.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You must be too ashamed to sign your amateur call sign to this...
If you want to draw conclusions from your uninformed opinions,
please don't do it in an anonymous letter to the a ham community.
Thank you

Dr McGwier...So sorry your dog ate your homework...

We are, as always:
"If you are looking for Modems, You are now disappointed"...N4HY

(66 modems...My Ass!)

73,
wa2msu/6
(that's 15 years of TAPR support)

 "Harold H. Fink" <hhfink@bellatlantic.net> writes:

heckel400@kingfmmail.com wrote:
>
> Lest there be some misunderstanding:
>
> There is a picture of Dr Robert McGwier in the
> Dictionary by the definition of "VAPORWARE", thanks to
> his contribution to amateur radio in conjunction with
> his work with the DSP-x232.
>

Guy,

Not only are you being cruel, you're flaunting your
ignorance!
The digital amateur world is indebted to "Dr. Bob" for a
great
many advances we tend to think of as "normal" today. I
suggest
you take a little time to check up on your history before
you
spout off again.

Harold F

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Lest there be a misunderstanding

From: forrerj@peak.org (Johan Forrer)
Date: Sat, 16 Oct 1999 08:18:26 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-45273-1999.10.16-10.30.45--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Folks,

I am all for free speech, but this kind of message is
totally inappropiate and off topic for this list. Please take
it somewhere else.

Johan Forrer, KC7WW
HFSIG list moderator.

>You must be too ashamed to sign your amateur call sign to this...
>If you want to draw conclusions from your uninformed opinions,
>please don't do it in an anonymous letter to the a ham community.
>Thank you
>
>Dr McGwier...So sorry your dog ate your homework...
>
>We are, as always:
>"If you are looking for Modems, You are now disappointed"...N4HY
>
>(66 modems...My Ass!)
>
>73,
>wa2msu/6
>(that's 15 years of TAPR support)
>
> "Harold H. Fink" <hhfink@bellatlantic.net> writes:
>
>heckel400@kingfmmail.com wrote:
>>
>> Lest there be some misunderstanding:
>>
>> There is a picture of Dr Robert McGwier in the
>> Dictionary by the definition of "VAPORWARE", thanks to
>> his contribution to amateur radio in conjunction with
>> his work with the DSP-x232.
>>
>
>Guy,
>
>Not only are you being cruel, you're flaunting your
>ignorance!
>The digital amateur world is indebted to "Dr. Bob" for a
>great
>many advances we tend to think of as "normal" today. I
>suggest
>you take a little time to check up on your history before
>you
>spout off again.
>
>Harold F
>
>
>
>---
>You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Your Web Page

From: searches@freeola.com
Date: Sat, 16 Oct 99 17:55:27 EST
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-45278-1999.10.16-11.23.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Increase your Web Site visiblity !

Try out :

*** Proven Web Page Optimisation Software ***
>> Audited results 55% Number 1 90% top 5 <<

*** Macro Media Web Page Design Software ****
  >>> Make your Web Pages sparkle <<<<

**** Accept checks from your Web Site *****
 >>>> Improve your margins & Cashflow <<<<

 Go to : http://www.freebizlinks.net

 ++++ Sender & Remove Instructions ++++
Free Business Links
Bevere Close
Worcester
Tel 121 643 2448
Email : searchers@freeola.com
++++++++++++++++++++++++++++++++++
To get removed from our email list please go to
http://www.freebizlinks.net/cleanlist.html
++++++++++++++++++++++++++++++++++

LBCC2

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] HF ALE Handbook (Attention PC-ALE users)

From: Robert McGwier <rwmcgwier@home.com>
Date: Sat, 16 Oct 1999 22:25:47 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-45320-1999.10.16-21.51.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Take at look at

http://www.its.bldrdoc.gov/pub/oa-rpt/hf-ale/handbook/

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Useful pages for test signals, etc.

From: Robert McGwier <rwmcgwier@home.com>
Date: Sun, 17 Oct 1999 11:53:26 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-45380-1999.10.17-11.19.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://rover.wiesbaden.netsurf.de/~signals/DIG_intro.htm

http://www.wunclub.com/

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: HF ALE Handbook (Attention PC-ALE users)

From: "f1usa" <f1usa@wanadoo.fr>
Date: Sun, 17 Oct 1999 15:50:51 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-45387-1999.10.17-11.45.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Take at look at
>
>http://www.its.bldrdoc.gov/pub/oa-rpt/hf-ale/handbook/
>

Very fine link Robert, thanks.

73 de F1USA, Stephane (Oleron Island - France)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: HF ALE Handbook (Attention PC-ALE users)

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 17 Oct 1999 17:33:24 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-45388-1999.10.17-11.45.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert McGwier wrote:
>
> Take at look at
>
> http://www.its.bldrdoc.gov/pub/oa-rpt/hf-ale/handbook/
>

For those interested Annexe 4 mentions Amateur Radio.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: HF ALE Handbook (Attention PC-ALE users)

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 17 Oct 1999 17:38:22 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-45390-1999.10.17-11.51.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

And,

If anyone wants it, I have placed a link to the final version
of MIL-STD 188-141B on my website, it is in word format.

http://www.chbrain.dircon.co.uk/pcale

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: HF ALE Handbook (Attention PC-ALE users)

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 17 Oct 1999 17:41:11 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-45392-1999.10.17-11.54.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles Brain wrote:
>
> And,
>
> If anyone wants it, I have placed a link to the final version
> of MIL-STD 188-141B on my website, it is in word format.
>
> http://www.chbrain.dircon.co.uk/pcale
>
try again

 http://www.chbrain.dircon.co.uk/pcale.html

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] Re: HF ALE Handbook (Attention PC-ALE users)

From: "B.Haineault" <bhaineault@home.com>
Date: Thu, 21 Oct 1999 23:06:56 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <chbrain@dircon.co.uk>
Message-ID: <LYR4070-46177-1999.10.22-01.22.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Charles,

I have downloaded the documents and printed them (huge volume... but it is
now in my office library beside MIL141A, FS1045/5A/6/7/8/1052 and others)

By the way, are you aware of some form of comparison chart that shows the
differences between...
FS1045, FS1045A, FS1046 (1A), MIL141A and MIL141B ?

I am mainly curious about the 1G-ALE, 2G-ALE and 3G-ALE "standard" and
"optional" features.

We generated one over here... but I never found one to compare with our
results.

Bruno Haineault, KF6QQP/VE2EQ
Oceanside, California

ICQ Pager #: 335336
ICQ Pager address: http://wwp.mirabilis.com/335336

> -----Original Message-----
> From: bounce-hfsig-3409@lists.tapr.org
> [mailto:bounce-hfsig-3409@lists.tapr.org]On Behalf Of Charles Brain
> Sent: Sunday, October 17, 1999 09:41
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Re: HF ALE Handbook (Attention PC-ALE users)
>
>
>
>
> Charles Brain wrote:
> >
> > And,
> >
> > > If anyone wants it, I have placed a link to the final version
> > > of MIL-STD 188-141B on my website, it is in word format.
> >
> > > http://www.chbrain.dircon.co.uk/pcale
> >
> try again
>
 http://www.chbrain.dircon.co.uk/pcale.html

- Charles G4GUO

You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] Re: HF ALE Handbook (Attention PC-ALE users)

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 22 Oct 1999 09:55:18 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-46187-1999.10.22-04.11.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"B.Haineault" wrote:

> By the way, are you aware of some form of comparison chart that shows the
> differences between...
> FS1045, FS1045A, FS1046 (1A), MIL141A and MIL141B ?

No I am not, but someone has probably done one, speak to Dr Eric Johnson.

>
> I am mainly curious about the 1G-ALE, 2G-ALE and 3G-ALE "standard" and
> "optional" features.
>
> We generated one over here... but I never found one to compare with our
> results.
>

A company I used to work for generated one for entry into their requirements

capture tool, which feeds into the Teamwork CASE tool they use for S/W development.
They had a new student to do it!

I have not finished reading it yet but the 3G ALE is interesting as I helped design
a large synchronous ALE project a few years ago, I can't say anymore as when I left
I had to sign a non disclosure agreement, but apart from the waveform it is very
similar.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] Re: HF ALE Handbook (Attention PC-ALE users)

From: Anthony Martin <anthony.n.martin@marconicomms.com>
Date: Mon, 25 Oct 1999 17:28:18 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-46598-1999.10.26-09.30.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles Brain wrote:

>
> I have not finished reading it yet but the 3G ALE is interesting as I helped design
> a large synchronous ALE project a few years ago, I can't say anymore as when I left
> I had to sign a non disclosure agreement, but apart from the waveform it is very
> similar.
>

Given that I'm the only person on the planet who knows how to turn the
waveform into binary digits and you're the only person who knows how
to turn the binary digits into characters (with the possible exception
of Trevor Hawkins perhaps). I suppose it's totally beyond the realms of
legal possibility to come up with a means for any amateur to listen to
& DX these signals, at least the non-encrypted ones?

Would it even be possible to get anything useful without a copy of the
frequency management database?

News is the system's been taken into Kosovo in support of the Swedish
contingent. Our system integration people have been kindly given a
copy of the management database & they're RXing the traffic. All
the delivery milestones on the system you designed have been completed
& customer is satisfied. And we all got our photos' taken and an invite
to the Indian restaurant...

With the increasing digitisation of the shortwaves one wonders how
the DX receiver must evolve for it to be any use at all in 5 years
time?

Ant
--
____

A.N.Martin   anthony.n.martin@marconicomms.com   www.marconicomms.com
Snr. Development Engineer   Tel.   01245 353221 x4995
Military Products Engineering   Fax.   01245 275993
Marconi Communications UK, Marconi House, New St. Chelmsford, UK
____

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: HF ALE Handbook (Attention PC-ALE users)

From: "B.Haineault" <bhaineault@home.com>
Date: Tue, 26 Oct 1999 07:28:33 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-46620-1999.10.26-09.41.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Comment...

> -----Original Message-----
> From: bounce-hfsig-3409@lists.tapr.org

> [mailto:bounce-hfsig-3409@lists.tapr.org]On Behalf Of Anthony Martin
> Sent: Monday, October 25, 1999 09:28
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Re: HF ALE Handbook (Attention PC-ALE users)
> ...Given that I'm the only person on the planet who knows how to turn the
> waveform into binary digits and you're the only person who knows how
> to turn the binary digits into characters (with the possible exception
> of Trevor Hawkins perhaps)...

BH> Maybe that is the case on your side of the pond ;-)

Bruno Haineault
Oceanside, California

ICQ Pager #: 335336
ICQ Pager address: http://wwp.mirabilis.com/335336

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] [Fwd: bendix part]

From: Jim Sanford <wb4gcs@home.com>
Date: Tue, 26 Oct 1999 21:50:43 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-46773-1999.10.26-21.10.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anybody have a source for this? I'm looking for it to get an
autotuner running . . .

Any thoughts/ideas gratefully appreciated.

Have searched the "usual" suppliers; no joy.

Thanks & 73,

Jim
wb4gcs@amsat.org

22. [hfsig] Re: [Fwd: bendix part]

From: Lyle Johnson <lylej@azstarnet.com>
Date: Wed, 27 Oct 1999 04:21:44 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-46781-1999.10.26-23.37.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

These are quite common. I'd try Avent. They are made by Bendix, Burndy,
Cannon and Souriou (spelling?).

if you can't locate them, then try an avionics or "radio shop" at your
local airport that caters to general aviation aircraft. They'll be
expensive, and some waiting time.

Lyle

>Does anybody have a source for this? I'm looking for it to get an
>autotuner running . . .

>Bendix number: PT06P-14-18S

Try PT06E-14-18S(SR) (Bendix)
    BT06E... (Burndy)
>NSN: 5935-00-812-1506
>ask HFSIG for help.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

November 1999

Original source file: hfsig.9911
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9911

1. [hfsig] Viterbi path lengths

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 09 Nov 1999 21:27:17 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-48637-1999.11.09-15.41.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

Does anyone know how to calculate the path length needed
when trying to use the Viterbi algo to demodulate a partial
response CPM signal. I am using a 3T pulse shape and an
alphabet size of 4.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] New MT63 software

From: Pawel Jalocha <jalocha@hpdel1.ifj.edu.pl>
Date: Wed, 10 Nov 1999 13:25:59 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-48759-1999.11.10-06.43.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well, it's not really new, because the modulation/coding did not change.
It is the platform which has changed, as I have written the MT63
transmitter and receiver in C++ so it can run on LINUX !
It runs on MSDOS too, but as there is no sound support
you can only encode and decode audio files. It can still be usefull
for simulations or playbacks of pre-recorded audio.

Anyway, the MT63 run in real time on LINUX. On my Pentium 133 MHz
the transmitter takes 15% of CPU and the receiver 30-40%.
I tested the code on Slackware with kernel 2.0.34 and on Red Hat 6.0
with kernel 2.2.xx (sorry, don't remember the exact number).
On the Red Hat, I can actually let the transmitter output audio
through one soundcard while the receiver reads the audio from
the other one and there is still some CPU left.

The code is in an early stage of developement but it works
and it is compatible with the EVM56K code (MT63ASC.ASM).
There is no user interface yet, the transmitter and receiver
are line commands with options for selecting modes, audio devices, etc.
The transmitter transmits text typed on the keyboard or read from
a file. The receiver prints directly to the screen.

I plan to make up a better looking terminal. However if anybody
wishes to include my MT63 classes in his/her freeware software
I wouldn't mind this. The code should work under Windows or any other
platform which can supply sound sampled at 8000 Hz or different rate.
The C++ classes are easy to use, the modem needs no tuning
(it tell you however the frequency offset), so the interface
needs not to be sophisticated.

Pawel

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] MT63 for Linux + Sound card URL for source.

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Wed, 10 Nov 1999 12:59:19 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-48811-1999.11.10-15.12.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Folks,

Guess everyone has seen Pawel's announcement of

his port of MT63 to Linux? Congratulations Pawel!

Pawel asked me to put the code package on my web page,
so look for it at:

http://www.peak.org/~forrerj

Remember to hold down the SHIFT key when you want to
download the code.

Have fun, 73

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Spectran beta 1 available

From: Alberto di Bene <dibene@usa.net>
Date: Sun, 14 Nov 1999 21:40:31 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-49733-1999.11.14-14.54.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have uploaded the Beta1 version of Spectran, a native Windows spectral analysis
program.
It is the follow-on of Hamview, in case you know it, but this new version works
with any sound card supported by Windows.

It has some interesting capabilities, the main one is the resolution that ranges from

4 Hz to 0.032 Hz (32 milliHertz). For this reason it is well suited for weak signals
detection, such as for VLF, EME or SETI.

The mapping between audio levels and colors is done in such a way to be not dependent

from the absolute level of the input signal, but rather on the deviation from the
running average.
This allows to detect, e.g., the harmonics of the 50 (or 60) Hertz picked up by an
open
input line to the sound card.

Please try it, (freeware for radio amateurs and experimenters) and give comments and
suggestions.

Alberto   I2PHD

P.S. The program can be downloaded from http://members.xoom.com/spectran

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] MT63 on HF ?

From: Pawel Jalocha <jalocha@hpdel1.ifj.edu.pl>
Date: Mon, 15 Nov 1999 14:29:05 +0100 (MET)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: psk31@bipt106.bi.ehu.es
Message-ID: <LYR4070-49907-1999.11.15-07.49.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello to all,

Regarding the MT63 "daemon":

I do agree with Peter that the MT63 can not share spectrum with another
MT63 signal. In this respect MT63 is not like spread spectrum, where you
can change the spreading code and run two or more signals on top of
eachother.

Actually, I thought so only till this morning :-) The other day I was

testing the new MT63 code for tolerance against a mismatch in the sampling rate between two soundcards: I noticed that the signal can no longer be recognized by the receiver when the mismatch is more than few percent - how many percent, depends on the integration time of the time/frequency synchronizer. The receiver treats such mis-rated signals simply as noise and this effect can be very well understood because the different rates make not only the symbols last longer or shorter: the carrier pattern shrinks or expands so it no longer fits into the pattern expected by the receiver. Thus, I believe now that one can run two or more signals on top, providing the sampling rates differ by some amount.

Apparently my software has provisions to change the effective sampling rate (-R option) and the receiver integration time (-I). I never intended them to be used as a "spreading code": -R was supposed to be used to correct the sampling rate error of a soundcard and -I to optimize the performance versus processing delay. However we have now something to experiment with and if someone wishes to setup an experiment I look forward for the result.

I do not agree with Peter that "life would be so intolerable for the remaining narrow band operators" when all others switch to MT63.
First, I believe it is not that easy to switch: the transceiver's SSB modulator is a bit more critical, the whole matter of feeding the audio to the transceiver need more care.
Second, with the MT63 you can only run at some 1/10th of the peak power of your tranceiver.

Now, suppose most people have 100W peak power TRX. Now, if we place an MT63 operator at each kHz running at 10 W we get 0.01W/Hz their power density. Now, if there comes a PSK31 operator who applies 50 W into his 20 Hz of bandwidth, then he will produce 2.5 Hz/W power density, thus 250 times more. The station who listens for the PSK31 signal will selectively filter only those 20 Hz so it will see 50 W of the PSK31 and 0.20 W of the MT63 signal (actually 0.10 W because the BPSK only "sees" half the noise power). The PSK31 station signal/noise ratio becomes then 500 which translates to 27 dB.

It's really difficult for an MT63 operator to jam the PSK31 signal.
The other way, the MT63 operator will not be jammed by a single PSK31 signal, which can only spoil two or three of the 64 carriers - this loss will be recovered by the FEC code.
My opinion: Several PSK31 transmitions can spoil the MT63 signal but not the other way, even after I invent a constant envelope wide-band mode :-)

I think there is place for the wideband signals, already for the experimental purpose, which should be the heart of amateur radio.
The large bandwidth of the MT63 is not to get rid of the other narrow-band signals: it's first purpose it to provide resistance against selective fading. When you are narrow band, you can only combat it by very long interleave factor or by brutally increasing the power. When you are wide band you can really trick out the HF: when one frequency fades away, the other _must_ (conservation laws ?) come up.

We can certainly run the MT63 (and in the 2000 Hz mode) on the lower part of the 28 MHz band. Hams complain constantly about "CB-ers" sitting there. Let's see who wins now ?
The other good place for the 2000 Hz mode can be VHF. I thought about EME as well but there we need probably a non-synchronous mode.

BTW: I have just sent the second MT63 release, including the simple terminal, to Johan. I count on the potential operators, that they won't spoil the bands (nor my name !) with the splatter of overdriven transmitters :-)

Pawel

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Fw: [psk31] MT63 for soundcard (fwd)

From: Pawel Jalocha <jalocha@hpdel1.ifj.edu.pl>
Date: Mon, 15 Nov 1999 15:13:48 +0100 (MET)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-49914-1999.11.15-08.34.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I did not see this message on HFSIG, I let myself copy it there,
as Peter wished to do so.

Pawel

> From Peter Martinez G3PLX
>
> The note from PA0OCD about the availability of MT63 for soundcard
> marks another milestone in the route to chaos which I predicted in my
> article in RADCOM June 1999 entitled "Wide or Narrow, the Digital
> Dilemna".
>
> To bring everyone up to date I should explain that MT63 is a
> wide-band mode (can be up to 2 kHz wide) which uses vast amounts of
> redundancy to transmit hand-keyed text at a speed similar to PSK31.
> This makes MT63 very very robust indeed in rejecting interference
> from narrowband modes such as CW and PSK31, but it has no resilience
> to interference from another co-channel MT63 signal and only a modest
> advantage in terms of weak-signal working or propagation disturbance.
> MT63 has so far only been available for the EVM card.
>
> We, the amateur radio community as a whole, need to think very
> carefully before we release this demon into our midst. Think about
> it: if this mode is so robust against interference then it's going to
> become popular, and especially so if it's available for the
> soundcard. Just think of the consequences of PSK31 operators
> switching to MT63 which is 50 times wider! Life would be intolerable
> for the remaining narrow-band operators, a bit like working PSK31 in
> the SSB band.
>
> The recent soundcard implementation of the MIL STD 188 modem by Bob
> Maguire also comes into this category, although it is versatile and
> can be used for higher baudrates with progressively lower levels of
> robustness.
>
> I would put forward the proposal that experimental use of such
> wide-band modes should take place ONLY in the wide-band segments of
> the bands. That is, in the SSB sections of the bands where similar
> wide-band non-voice modes (SSTV and FAX) are well established.
>
> In the longer term we need to debate whether modes like this, which
> exist only to be robust against interference from others, have any
> place at all in amateur radio. They would only achieve their
> robustness if they WERE sharing spectrum, which means they only
> "perform" when causing interference to others. This is patently unfair.
>
> Furthermore, if these modes aquired their own dedicated channels so
> that they didn't cause interference, then they would not be subjected
> to it either. A wide-band interference-resistant mode with no
> interference is no more than a criminal waste of spectrum!
>
> HFSIG please copy.
>
> 73
> Peter

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Fw: [psk31] MT63 for soundcard (fwd)

From: Charles Brain <chbrain@dircon.co.uk>
Date: Mon, 15 Nov 1999 14:53:00 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-49934-1999.11.15-09.09.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pawel Jalocha wrote:

> > I would put forward the proposal that experimental use of such
> > wide-band modes should take place ONLY in the wide-band segments of
> > the bands. That is, in the SSB sections of the bands where similar
> > wide-band non-voice modes (SSTV and FAX) are well established.
> >

I must admit, I would like to see a set of "ISM" frequencies probably
one per band 3khz wide where you can transmit with no regard to other

users and in turn expect no protection from other users. No I don't
mean CQWW :-)

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] mt63lx-0.2.tgz available for downloading

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Mon, 15 Nov 1999 08:43:03 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-49965-1999.11.15-10.56.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

The latest version for MT63 for Linux is available
for downloading from my web page.

Please see: http://www.peak.org/~forrerj

You may also have noticed a discussion starting up on
wide band versus narrow band modes. This is something
that we have to start an active discussion. Please
do not be shy and participate.

73

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: mt63lx-0.2.tgz available for downloading

From: Robert McGwier <rwmcgwier@home.com>
Date: Mon, 15 Nov 1999 18:11:52 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50017-1999.11.15-17.25.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I agree with this completely. I have the formal response back
and I am making the required modifications to the Mil Std
modem. I fully expect that my next request will be met with
full approval since I am making every change asked for.

This is a 2400 baud modem and therefore occupies an
SSB channel. We need to have this discussion as soon
as possible.

Amateur radio HF comms is just light years behind what
is being done in commercial and government areas and
bandwidth is a big difference in what is being done.
If we cannot find a happy place, where these wider modes
can be used, then it makes little sense for me to bust
my rear to get all of this done in a timely fashion.

FYI, it is rumored that Rockwell Collins has been on the
air testing its 38400 bps Trellis coding based modem,
that occupies a voice channel. Can we fail to begin
to make full use of this kind of technology on HF? Can
we in fact afford not to do this kind of experimentation?
Are the impediments to figuring out how to make this
possible so huge as to make any efforts along these lines
wasted? Hard working fingers and minds want to know!

Bob

At 08:43 AM 11/15/1999 -0800, you wrote:
>Hi All,
>
>The latest version for MT63 for Linux is available
>for downloading from my web page.
>
>Please see: http://www.peak.org/~forrerj

>
>You may also have noticed a discussion starting up on
>wide band versus narrow band modes. This is something
>that we have to start an active discussion. Please
>do not be shy and participate.
>
>73
>
>Johan, KC7WW
>
>
>---
>You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: mt63lx-0.2.tgz available for downloading

From: Hamish Moffatt <hamish@rising.com.au>
Date: Thu, 18 Nov 1999 23:26:47 +1100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50615-1999.11.18-06.40.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, Nov 15, 1999 at 06:11:52PM -0500, Robert McGwier wrote:
> Amateur radio HF comms is just light years behind what
> is being done in commercial and government areas and
> bandwidth is a big difference in what is being done.
> If we cannot find a happy place, where these wider modes
> can be used, then it makes little sense for me to bust
> my rear to get all of this done in a timely fashion.
>
> FYI, it is rumored that Rockwell Collins has been on the
> air testing its 38400 bps Trellis coding based modem,
> that occupies a voice channel. Can we fail to begin
> to make full use of this kind of technology on HF? Can
> we in fact afford not to do this kind of experimentation?

Experimentation used to be very common in amateur radio; now
it seems it is not so popular. This sort of experimentation
is IMHO essential and I hope you will continue with it.
I am eager to try any new modes that people come up with.

I read a while ago of an experiment where two European hams
communicated over a digital HF voice link which used less bandwidth
than an analogue SSB channel. That is impressive and I wish it
were more common. (Unfortunately it did not look easy/cheap to
replicate the equipment used.)

I think it is agreed that the wider-bandwidth (but still digital)
modes cannot live in the narrowband area under 14.100 (or is it 14.150
in the USA?) but I see no reason why they should take second place to
a voice QSO in the rest of the band. Finding a calling frequency
is not easy of course.

Hamish
--
Hamish Moffatt   Mobile: +61 412 011 176   hamish@rising.com.au
Rising Software Australia Pty. Ltd.   http://www.risingsoftware.com/
Phone: +61 3 9894 4788   Fax: +61 3 9894 3362   USA: 1 888 667 7839

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: mt63lx-0.2.tgz available for downloading

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Thu, 18 Nov 1999 08:42:13 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "'Cactus Charlie'" <habitat@electrotex.com>,
        "'WA3PAY'"
 <thomas@uthscsa.edu>
Message-ID: <LYR4070-50641-1999.11.18-08.56.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Let me make a few brief comments...as many of you may know, I've been off the SIG since my surgery last year and just re-joined this week. Thus, if some of my comments go over old turf, please excuse the extra bandwidth.

I was very pleased to read the report in QST about Bob's work with an HF high speed modem. AS I have said for years (since 1995) we (hams) need to start sending high speed data over HF...and also junk 1200 baud on V/UHF. The technology supports much faster speeds on V/UHF and HF.

While the commercial folks may wish to use a hardware solution to accomplish high speed data transmissions on HF, I truly believe that using a sound card in your computer should be the first and primary step in obtaining high speed data on HF.

Using a federal recognized standard can only help us ingratiate ourselves to FEMA and other federal agencies who might have need to interface with us during contingency situations. In this day and time, it will be easier to follow the federal government's lead than to create our own protocol and believe that the government would adopt it. We must face the fact that there are more contractor personnel working in the communications field that hams. This was not true back in the '50s and early '60s when SSB and AX.25 were in their infancy.

I think Bob's project needs our whole hearted support. A national/ international operational network using high speed HF data on the hambands cannot help but get us substantial national and international recognition for hams. With the ever increasing desire by commercial interest in our hambands, it behooves us to, as rapidly as possible, embrace new and innovative technologies whether invented for ham use only or take work originally started in the commercial world and exploiting it for our and nations' benefit.

Whether Bob's work is strictly for the love of the hobby or for personal gain, it should make no difference to us as he is sharing his wealth of knowledge with us and as such, being benefactors of his efforts, we might even consider assisting him in his efforts as each one can and sees fit to do.

73,

Walt/K5YFW

-----Original Message-----
From: Hamish Moffatt [mailto:hamish@rising.com.au]
Sent: Thursday, November 18, 1999 6:27 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: mt63lx-0.2.tgz available for downloading

On Mon, Nov 15, 1999 at 06:11:52PM -0500, Robert McGwier wrote:
> Amateur radio HF comms is just light years behind what
> is being done in commercial and government areas and
> bandwidth is a big difference in what is being done.
> If we cannot find a happy place, where these wider modes
> can be used, then it makes little sense for me to bust
> my rear to get all of this done in a timely fashion.
>
> FYI, it is rumored that Rockwell Collins has been on the
> air testing its 38400 bps Trellis coding based modem,
> that occupies a voice channel. Can we fail to begin
> to make full use of this kind of technology on HF? Can
> we in fact afford not to do this kind of experimentation?

Experimentation used to be very common in amateur radio; now it seems it is not so popular. This sort of experimentation is IMHO essential and I hope you will continue with it. I am eager to try any new modes that people come up with.

I read a while ago of an experiment where two European hams communicated over a digital HF voice link which used less bandwidth than an analogue SSB channel. That is impressive and I wish it were more common. (Unfortunately it did not look easy/cheap to replicate the equipment used.)

I think it is agreed that the wider-bandwidth (but still digital) modes cannot live in the narrowband area under 14.100 (or is it 14.150 in the USA?) but I see no reason why they should take second place to a voice QSO in the rest of the band. Finding a calling frequency is not easy of course.

Hamish
--
Hamish Moffatt   Mobile: +61 412 011 176   hamish@rising.com.au
Rising Software Australia Pty. Ltd.   http://www.risingsoftware.com/
Phone: +61 3 9894 4788   Fax: +61 3 9894 3362   USA: 1 888 667 7839

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] High speed - wide bandwidth HF digital

From: Johan Forrer <forrerj@peak.org>
Date: Thu, 18 Nov 1999 10:20:29 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "'Cactus Charlie'" <habitat@electrotex.com>,
        "'WA3PAY'" <thomas@uthscsa.edu>
Message-ID: <LYR4070-50672-1999.11.18-12.34.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt,

I changed the title for the topic ...

Bob, great to see you on the way to recovery.

Your interest and support for high speed digital HF
communications are understood and appreciated. No problem
for us wanting to see progress, or looking for ways to
gain experience with new technology, or just want to
experiment. Face it, recent developments showed that
modest desk top computers can do this. Folks like Phil Karn
has advocated this for some time.

The issue is rather how to integrate such new schemes into
our existing bandplans. The opposition is from the folks in
the analog world; mostly CW and SSB operators, that find
our digital signals obnoxious and will fight it with everything
they have and will not concede gracefully. It will get ugly.

I suspect that once our new schemes become popular due to the
low cost hardware/software solutions, there will be the initial
spate of activity, then when the novelty has worn off, a handfull
will continue integrating the new modes into existing services,
which includes our committment to emergency and disaster efforts.

Any suggestions, solutions, ideas .... ?

Thanks,

Johan, KC7WW

On Thu, 18 Nov 1999, DuBose Walt GS-12 AETC CONS/LGCA wrote:

> Let me make a few brief comments...as many of you may know, I've been off
> the SIG since my surgery last year and just re-joined this week. Thus, if
> some of my comments go over old turf, please excuse the extra bandwidth.
>
> I was very pleased to read the report in QST about Bob's work with an HF
> high speed modem. AS I have said for years (since 1995) we (hams) need to
> start sending high speed data over HF...and also junk 1200 baud on V/UHF.
> The technology supports much faster speeds on V/UHF and HF.
>
> While the commercial folks may wish to use a hardware solution to accomplish
> high speed data transmissions on HF, I truly believe that using a sound card
> in your computer should be the first and primary step in obtaining high
> speed data on HF.
>
> Using a federal recognized standard can only help us ingratiate ourselves to
> FEMA and other federal agencies who might have need to interface with us
> during contingency situations. In this day and time, it will be easier to

> follow the federal government's lead than to create our own protocol and
> believe that the government would adopt it. We must face the fact that
> there are more contractor personnel working in the communications field that
> hams. This was not true back in the '50s and early '60s when SSB and AX.25
> were in their infancy.
>
> I think Bob's project needs our whole hearted support. A national/
> international operational network using high speed HF data on the hambands
> cannot help but get us substantial national and international recognition
> for hams. With the ever increasing desire by commercial interest in our
> hambands, it behooves us to, as rapidly as possible, embrace new and
> innovative technologies whether invented for ham use only or take work
> originally started in the commercial world and exploiting it for our and
> nations' benefit.
>
> Whether Bob's work is strictly for the love of the hobby or for personal
> gain, it should make no difference to us as he is sharing his wealth of
> knowledge with us and as such, being benefactors of his efforts, we might
> even consider assisting him in his efforts as each one can and sees fit to
> do.
>
> 73,
>
> Walt/K5YFW
>
> -----Original Message-----
> From: Hamish Moffatt [mailto:hamish@rising.com.au]
> Sent: Thursday, November 18, 1999 6:27 AM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Re: mt63lx-0.2.tgz available for downloading
>
>
> On Mon, Nov 15, 1999 at 06:11:52PM -0500, Robert McGwier wrote:
> > Amateur radio HF comms is just light years behind what
> > is being done in commercial and government areas and
> > bandwidth is a big difference in what is being done.
> > If we cannot find a happy place, where these wider modes
> > can be used, then it makes little sense for me to bust
> > my rear to get all of this done in a timely fashion.
> >
> > FYI, it is rumored that Rockwell Collins has been on the
> > air testing its 38400 bps Trellis coding based modem,
> > that occupies a voice channel. Can we fail to begin
> > to make full use of this kind of technology on HF? Can
> > we in fact afford not to do this kind of experimentation?
>
> Experimentation used to be very common in amateur radio; now
> it seems it is not so popular. This sort of experimentation
> is IMHO essential and I hope you will continue with it.
> I am eager to try any new modes that people come up with.
>
> I read a while ago of an experiment where two European hams
> communicated over a digital HF voice link which used less bandwidth
> than an analogue SSB channel. That is impressive and I wish it
> were more common. (Unfortunately it did not look easy/cheap to
> replicate the equipment used.)
>
> I think it is agreed that the wider-bandwidth (but still digital)
> modes cannot live in the narrowband area under 14.100 (or is it 14.150
> in the USA?) but I see no reason why they should take second place to
> a voice QSO in the rest of the band. Finding a calling frequency
> is not easy of course.
>
>
> Hamish
> --
> Hamish Moffatt   Mobile: +61 412 011 176   hamish@rising.com.au
> Rising Software Australia Pty. Ltd.   http://www.risingsoftware.com/
> Phone: +61 3 9894 4788   Fax: +61 3 9894 3362   USA: 1 888 667 7839
>
> ---
> You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] RE: High speed - wide bandwidth HF digital

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Thu, 18 Nov 1999 12:59:29 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50679-1999.11.18-13.13.30--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan,

You have to do it just like we did it in the early SSB days...pick a frequency or two on each band, don't publish them to the world, and go at it...you get called names as we did...single slop bucket, etc. but stick and stones may break our bones but words will never hurt us.

When the masses realize that we are there to stay and have a better mouse trap, they will follow along a few at a time.

You need to realize that there are still a few old boys working AM on 80, 40, 20, 15 and 10...but few...and some old curmudgeons are still stuck at the bottom of the band with there first generation tube CW rigs...they would operate spark gap if the could.

Cactus Charlie (aka K5SBU) and I can verify the amount of abuse we took when running SSB while in college...even from a ham working on his masters in physics. Then the tide turned a bit and everyone looked down on the Sunday morning AM nets on 40 & 75...even when most of the guys on the AM net actually operated primarily SSB.

If you wait until the opposition from the folks in the analog world find our digital signals acceptable, we will never get on-the-air.

How can it get ugly? If they get on a frequency we are on and intentionally jam us, Mr. Hollingsworth of the FCC will take them off the air. Will it make some mad? Sure...just as it did when we were running SSB on AM frequencies/ bands. Will the other guys ever accept us? Sure...and they will join us. Will everyone join us or accept us? NO just as some hams have never accepted voice, SSB, etc.

"That evil radio is Satan's tool." according to my great grandfather. He said my grandfather was going to hell for buying an old 3 tube battery powered radio. Hummmm, broadcast is responsible for spreading the Gospel as much as anything else. I guess my great-grandfather was wrong and I don't think my grandfather is in hell either.

Be a pioneer...take a stand and stay there. That's what pioneering is all about...besides those damn satellites are going to fall out of the sky and we'll have to use high speed HF data communications.

Walt

-----Original Message-----
From: Johan Forrer [mailto:forrerj@peak.org]
Sent: Thursday, November 18, 1999 12:20 PM
To: TAPR HF Special Interest Group
Cc: 'Cactus Charlie'; 'WA3PAY'
Subject: [hfsig] High speed - wide bandwidth HF digital

Walt,

I changed the title for the topic ...

Bob, great to see you on the way to recovery.

Your interest and support for high speed digital HF communications are understood and appreciated. No problem for us wanting to see progress, or looking for ways to gain experience with new technology, or just want to experiment. Face it, recent developments showed that modest desk top computers can do this. Folks like Phil Karn has advocated this for some time.

The issue is rather how to integrate such new schemes into

our existing bandplans. The opposition is from the folks in
the analog world; mostly CW and SSB operators, that find
our digital signals obnoxious and will fight it with everything
they have and will not concede gracefully. It will get ugly.

I suspect that once our new schemes become popular due to the
low cost hardware/software solutions, there will be the initial
spate of activity, then when the novelty has worn off, a handfull
will continue integrating the new modes into existing services,
which includes our committment to emergency and disaster efforts.

Any suggestions, solutions, ideas .... ?

Thanks,

Johan, KC7WW

On Thu, 18 Nov 1999, DuBose Walt GS-12 AETC CONS/LGCA wrote:

> Let me make a few brief comments...as many of you may know, I've been off
> the SIG since my surgery last year and just re-joined this week. Thus, if
> some of my comments go over old turf, please excuse the extra bandwidth.
>
> I was very pleased to read the report in QST about Bob's work with an HF
> high speed modem. AS I have said for years (since 1995) we (hams) need to
> start sending high speed data over HF...and also junk 1200 baud on V/UHF.
> The technology supports much faster speeds on V/UHF and HF.
>
> While the commercial folks may wish to use a hardware solution to
accomplish
> high speed data transmissions on HF, I truly believe that using a sound
card
> in your computer should be the first and primary step in obtaining high
> speed data on HF.
>
> Using a federal recognized standard can only help us ingratiate ourselves
to
> FEMA and other federal agencies who might have need to interface with us
> during contingency situations. In this day and time, it will be easier to
> follow the federal government's lead than to create our own protocol and
> believe that the government would adopt it. We must face the fact that
> there are more contractor personnel working in the communications field
that
> hams. This was not true back in the '50s and early '60s when SSB and
AX.25
> were in their infancy.
>
> I think Bob's project needs our whole hearted support. A national/
> international operational network using high speed HF data on the hambands
> cannot help but get us substantial national and international recognition
> for hams. With the ever increasing desire by commercial interest in our
> hambands, it behooves us to, as rapidly as possible, embrace new and
> innovative technologies whether invented for ham use only or take work
> originally started in the commercial world and exploiting it for our and
> nations' benefit.
>
> Whether Bob's work is strictly for the love of the hobby or for personal
> gain, it should make no difference to us as he is sharing his wealth of
> knowledge with us and as such, being benefactors of his efforts, we might
> even consider assisting him in his efforts as each one can and sees fit to
> do.
>
> 73,
>
> Walt/K5YFW
>
> -----Original Message-----
> From: Hamish Moffatt [mailto:hamish@rising.com.au]
> Sent: Thursday, November 18, 1999 6:27 AM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Re: mt63lx-0.2.tgz available for downloading
>
>
> On Mon, Nov 15, 1999 at 06:11:52PM -0500, Robert McGwier wrote:
> > Amateur radio HF comms is just light years behind what
> > is being done in commercial and government areas and

> > bandwidth is a big difference in what is being done.
> > If we cannot find a happy place, where these wider modes
> > can be used, then it makes little sense for me to bust
> > my rear to get all of this done in a timely fashion.
> >
> > FYI, it is rumored that Rockwell Collins has been on the
> > air testing its 38400 bps Trellis coding based modem,
> > that occupies a voice channel. Can we fail to begin
> > to make full use of this kind of technology on HF? Can
> > we in fact afford not to do this kind of experimentation?
>
> Experimentation used to be very common in amateur radio; now
> it seems it is not so popular. This sort of experimentation
> is IMHO essential and I hope you will continue with it.
> I am eager to try any new modes that people come up with.
>
> I read a while ago of an experiment where two European hams
> communicated over a digital HF voice link which used less bandwidth
> than an analogue SSB channel. That is impressive and I wish it
> were more common. (Unfortunately it did not look easy/cheap to
> replicate the equipment used.)
>
> I think it is agreed that the wider-bandwidth (but still digital)
> modes cannot live in the narrowband area under 14.100 (or is it 14.150
> in the USA?) but I see no reason why they should take second place to
> a voice QSO in the rest of the band. Finding a calling frequency
> is not easy of course.
>
>
> Hamish
> --
> Hamish Moffatt   Mobile: +61 412 011 176   hamish@rising.com.au
> Rising Software Australia Pty. Ltd.   http://www.risingsoftware.com/
> Phone: +61 3 9894 4788   Fax: +61 3 9894 3362   USA: 1 888 667 7839
>
> ---
> You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: High speed - wide bandwidth HF digital

From: "Laurence A Bay" <labay@zebra.net>
Date: Thu, 18 Nov 1999 13:03:07 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50681-1999.11.18-13.19.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For the benefit of my comments, I left what remains below.

With attitudes like that, ugliness is guaranteed.

I am an Extra Class Licensee, having been a ham since 1960. I remember the
days when SSB was being introduced. Similar comments by other hams were
heard. My Heathkit Twins eventually replaced my DX 60. I joined the
cacaphony!

Since I retired, I have become interested in digital mode. My modest
equipment includes a KAM Plus and a 486-DX2 PC with DOS software for
several digital modes.

My 100 watt TS450 doesn't seem to cut much mustard for I seldom work
stations nor do they respond to my CQ. Clearly, there needs to be more
digitial operators out there.

So I continue to support efforts in digital communications. But try to keep

the effort simple and inspiring. When the price is right, I will move my
W98 PC across the room to near my operating position. A long RS232 cable
will then not be required.

Please encourge me, and others, by positive statements.

73's,

-Larry
W1DOY

-----Original Message-----
From: Johan Forrer <forrerj@peak.org>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Cc: 'Cactus Charlie' <habitat@electrotex.com>; 'WA3PAY' <thomas@uthscsa.edu>
Date: Thursday, November 18, 1999 12:14 PM
Subject: [hfsig] High speed - wide bandwidth HF digital

>
>The issue is rather how to integrate such new schemes into
>our existing bandplans. The opposition is from the folks in
>the analog world; mostly CW and SSB operators, that find
>our digital signals obnoxious and will fight it with everything
>they have and will not concede gracefully. It will get ugly.
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] RE: High speed - wide bandwidth HF digital

From: Barry LaZar <barry@lissa.ncsc.mil>
Date: Thu, 18 Nov 1999 14:25:00 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50683-1999.11.18-13.36.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt,
    I think your approach is really offensive. Yes, you do a good mouse trap.
But, your approach to selling it will not make you any friends. Why not try to
work within the ham community in general, publish your findings, and do some on
the air evangelism. Look at how PSK-31 took off. It was immediately understood
how great it is, and within three months, the world jumped on it. I would argue
that this approach might be less ugly than the one I infer you propose. See you
on the digital modes.

Vy 73,
Barry
K3NDM

DuBose Walt GS-12 AETC CONS/LGCA wrote:

> Johan,
>
> You have to do it just like we did it in the early SSB days...pick a
> frequency or two on each band, don't publish them to the world, and go at
> it...you get called names as we did...single slop bucket, etc. but stick and
> stones may break our bones but words will never hurt us.
>
> When the masses realize that we are there to stay and have a better mouse
> trap, they will follow along a few at a time.
>
> You need to realize that there are still a few old boys working AM on 80,
> 40, 20, 15 and 10...but few...and some old curmudgeons are still stuck at
> the bottom of the band with there first generation tube CW rigs...they would
> operate spark gap if the could.
>
> Cactus Charlie (aka K5SBU) and I can verify the amount of abuse we took when
> running SSB while in college...even from a ham working on his masters in
> physics. Then the tide turned a bit and everyone looked down on the Sunday
> morning AM nets on 40 & 75...even when most of the guys on the AM net
> actually operated primarily SSB.
>
> If you wait until the opposition from the folks in the analog world find
> our digital signals acceptable, we will never get on-the-air.
>

> How can it get ugly? If they get on a frequency we are on and intentionally
> jam us, Mr. Hollingsworth of the FCC will take them off the air. Will it
> make some mad? Sure...just as it did when we were running SSB on AM
> frequencies/ bands. Will the other guys ever accept us? Sure...and they
> will join us. Will everyone join us or accept us? NO just as some hams
> have never accepted voice, SSB, etc.
>
> "That evil radio is Satan's tool." according to my great grandfather. He
> said my grandfather was going to hell for buying an old 3 tube battery
> powered radio. Hummmm, broadcast is responsible for spreading the Gospel
> as much as anything else. I guess my great-grandfather was wrong and I
> don't think my grandfather is in hell either.
>
> Be a pioneer...take a stand and stay there. That's what pioneering is all
> about...besides those damn satellites are going to fall out of the sky and
> we'll have to use high speed HF data communications.
>
> Walt
>
> -----Original Message-----
> From: Johan Forrer [mailto:forrerj@peak.org]
> Sent: Thursday, November 18, 1999 12:20 PM
> To: TAPR HF Special Interest Group
> Cc: 'Cactus Charlie'; 'WA3PAY'
> Subject: [hfsig] High speed - wide bandwidth HF digital
>
> Walt,
>
> I changed the title for the topic ...
>
> Bob, great to see you on the way to recovery.
>
> Your interest and support for high speed digital HF
> communications are understood and appreciated. No problem
> for us wanting to see progress, or looking for ways to
> gain experience with new technology, or just want to
> experiment. Face it, recent developments showed that
> modest desk top computers can do this. Folks like Phil Karn
> has advocated this for some time.
>
> The issue is rather how to integrate such new schemes into
> our existing bandplans. The opposition is from the folks in
> the analog world; mostly CW and SSB operators, that find
> our digital signals obnoxious and will fight it with everything
> they have and will not concede gracefully. It will get ugly.
>
> I suspect that once our new schemes become popular due to the
> low cost hardware/software solutions, there will be the initial
> spate of activity, then when the novelty has worn off, a handfull
> will continue integrating the new modes into existing services,
> which includes our committment to emergency and disaster efforts.
>
> Any suggestions, solutions, ideas .... ?
>
> Thanks,
>
> Johan, KC7WW
>
> On Thu, 18 Nov 1999, DuBose Walt GS-12 AETC CONS/LGCA wrote:
>
> > Let me make a few brief comments...as many of you may know, I've been off
> > the SIG since my surgery last year and just re-joined this week. Thus, if
> > some of my comments go over old turf, please excuse the extra bandwidth.
> >
> > I was very pleased to read the report in QST about Bob's work with an HF
> > high speed modem. AS I have said for years (since 1995) we (hams) need to
> > start sending high speed data over HF...and also junk 1200 baud on V/UHF.
> > The technology supports much faster speeds on V/UHF and HF.
> >
> > While the commercial folks may wish to use a hardware solution to
> accomplish
> > high speed data transmissions on HF, I truly believe that using a sound
> card
> > in your computer should be the first and primary step in obtaining high
> > speed data on HF.
> >
> > Using a federal recognized standard can only help us ingratiate ourselves
> to
> > FEMA and other federal agencies who might have need to interface with us

> > during contingency situations. In this day and time, it will be easier to
> > follow the federal government's lead than to create our own protocol and
> > believe that the government would adopt it. We must face the fact that
> > there are more contractor personnel working in the communications field
> that
> > hams. This was not true back in the '50s and early '60s when SSB and
> AX.25
> > were in their infancy.
> >
> > I think Bob's project needs our whole hearted support. A national/
> > international operational network using high speed HF data on the hambands
> > cannot help but get us substantial national and international recognition
> > for hams. With the ever increasing desire by commercial interest in our
> > hambands, it behooves us to, as rapidly as possible, embrace new and
> > innovative technologies whether invented for ham use only or take work
> > originally started in the commercial world and exploiting it for our and
> > nations' benefit.
> >
> > Whether Bob's work is strictly for the love of the hobby or for personal
> > gain, it should make no difference to us as he is sharing his wealth of
> > knowledge with us and as such, being benefactors of his efforts, we might
> > even consider assisting him in his efforts as each one can and sees fit to
> > do.
> >
> > 73,
> >
> > Walt/K5YFW
> >
> > -----Original Message-----
> > From: Hamish Moffatt [mailto:hamish@rising.com.au]
> > Sent: Thursday, November 18, 1999 6:27 AM
> > To: TAPR HF Special Interest Group
> > Subject: [hfsig] Re: mt63lx-0.2.tgz available for downloading
> >
> >
> > On Mon, Nov 15, 1999 at 06:11:52PM -0500, Robert McGwier wrote:
> > > Amateur radio HF comms is just light years behind what
> > > is being done in commercial and government areas and
> > > bandwidth is a big difference in what is being done.
> > > If we cannot find a happy place, where these wider modes
> > > can be used, then it makes little sense for me to bust
> > > my rear to get all of this done in a timely fashion.
> > >
> > > FYI, it is rumored that Rockwell Collins has been on the
> > > air testing its 38400 bps Trellis coding based modem,
> > > that occupies a voice channel. Can we fail to begin
> > > to make full use of this kind of technology on HF? Can
> > > we in fact afford not to do this kind of experimentation?
> >
> > Experimentation used to be very common in amateur radio; now
> > it seems it is not so popular. This sort of experimentation
> > is IMHO essential and I hope you will continue with it.
> > I am eager to try any new modes that people come up with.
> >
> > I read a while ago of an experiment where two European hams
> > communicated over a digital HF voice link which used less bandwidth
> > than an analogue SSB channel. That is impressive and I wish it
> > were more common. (Unfortunately it did not look easy/cheap to
> > replicate the equipment used.)
> >
> > I think it is agreed that the wider-bandwidth (but still digital)
> > modes cannot live in the narrowband area under 14.100 (or is it 14.150
> > in the USA?) but I see no reason why they should take second place to
> > a voice QSO in the rest of the band. Finding a calling frequency
> > is not easy of course.
> >
> >
> > Hamish
> > --
> > Hamish Moffatt   Mobile: +61 412 011 176   hamish@rising.com.au
> > Rising Software Australia Pty. Ltd.   http://www.risingsoftware.com/
> > Phone: +61 3 9894 4788   Fax: +61 3 9894 3362   USA: 1 888 667 7839
> >
> > ---
> > You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> >
> > ---
> > You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG

> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> >
> >
>
> ---
> You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> ---
> You are currently subscribed to hfsig as: barry@lissa.ncsc.mil
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: High speed - wide bandwidth HF digital

From: Charles Brain <chbrain@dircon.co.uk>
Date: Thu, 18 Nov 1999 20:19:49 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50688-1999.11.18-14.34.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Maybe we should be looking at non-profit organizations
outside the amateur community as potential users of
this technology ?

As far as the serial tone technology is concerned there
are a lot of people in the utility listening community
that are dying to get hold of Bobs modem to listen to
loads of five figure code groups or whatever. Even just
identifying the modem format seems to give them a buzz.

How about the MARS network ? Would they like to use
this stuff ? They seem to be all going digital, well they
dropped using the code from their networks.

There seem to be an awful lot of options that can be
explored.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] Re: High speed - wide bandwidth HF digital

From: "Scoggin, John K. Jr." <John.Scoggin@conectiv-comm.com>
Date: Thu, 18 Nov 1999 15:26:49 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50690-1999.11.18-14.40.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Speaking as an Army MARS guy, and as the operator of a
state HF/VHF gateway station, I would love to run something
other than HF Packet! It is painful to watch when the band
is noisy. We are starting to play with Clover - a combo of
FS-1052 and ALE would be ideal, if it weren't for the price...

john

John K. Scoggin, Jr.   Email: john.scoggin@conectiv-comm.com
Chief Technical Advisor   Phone: (302) 224-7200
Conectiv Communications   Fax: (302) 224-7220
PO Box 6066   Amateur: N3SKO
Newark, DE 19714-6066   Army MARS/SHARES: AAT3BF

Adjunct Assistant Professor   Email: scoggin@cis.udel.edu
University of Delaware   Phone: (302) 831-1028
Computer Science Dept.   Fax: (302) 831-8458
101B Smith Hall
Newark, DE 19716-2586

-----Original Message-----
From: Charles Brain [mailto:chbrain@dircon.co.uk]
Sent: Thursday, November 18, 1999 3:20 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: High speed - wide bandwidth HF digital

Maybe we should be looking at non-profit organizations
outside the amateur community as potential users of
this technology ?

As far as the serial tone technology is concerned there
are a lot of people in the utility listening community
that are dying to get hold of Bobs modem to listen to
loads of five figure code groups or whatever. Even just
identifying the modem format seems to give them a buzz.

How about the MARS network ? Would they like to use
this stuff ? They seem to be all going digital, well they
dropped using the code from their networks.

There seem to be an awful lot of options that can be
explored.

- Charles

You are currently subscribed to hfsig as: JOHN.SCOGGIN@CONECTIV-COMM.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] Re: High speed - wide bandwidth HF digital

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Thu, 18 Nov 1999 14:53:27 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50694-1999.11.18-15.07.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles,

Except for the Navy/Marine Corp MARS, MARS is dead for all practical
purposes. The assumption is that soon all MARS activity left will be under
a single agency/department head (the assumption is that it will be the Navy)
and at this point I don't think they, as a group, have enough impact on Navy
or DoD communications to mean much even if you could get them to go to a new
mode. There is more parochialism in Navy/Marine Corp MARS than the general
ham community.

The real move in this country is even away from ARES (Amateur Radio
Emergency Service) and to ARS (Amateur Radio Service). Whatever
communications capability the average ham has will be used if possible.
>From what I have seen, as a member of the local emergency management
communications support group, FEMA isn't much interested in old technology.
Thus, they aren't going to look to ARS for support...and yes they use the
government standard HF modems.

Local governments and independent relief agencies are generally looking to
the ARS for local communications and local emergency management offices for
up channel links to state and national offices could use high speed HF data.

What I see is development of an HF modem with its low baud rate and then
modified for a higher baud rate and higher BIT rate for higher thruput on
V/UHF frequencies...if possible of course. Then you have one modem for both
HF and higher frequency bands. In the U.S. today most of the V/UHF data is
at 1200 baud when use of technology demands bit rates over 10K, hams are
left out in the cold...hams still depend on 45-50 baud HF data circuits.
We're laughed at by serious emergency management offices.

Recent weapons of mass destruction and National Disaster Medical System
exercises point up the need for HF data speeds above 2400 BPS and above 10K
on V/UHF. My real concern is that emergency management officials will push
the FCC and congress to enact laws that allows emergency management offices
to request that cellular telephone companies restrict use of cellphone in
emergency situations to only emergency cellphone users. If that is done,
computers will be connected to the cellphones and there will be no need for
hams with their 1200 baud toys.

Doing highspeed data on HF or V/UHF has never been and never will be a
technical issue with hams but rather a parochial issue.

What is hear is that everyone is afraid to stick their foot in the door.

I'm not. I'm not technically savvy enough to create a high speed HF modem
but I do have "the you know whats" to get on the air and operate with one.
I'll do it if I can get the technology to work. Who wants to go with me?
When we've opened the door, everyone, when they feel comfortable, is invited
in. Those who are not comfortable getting in initially, that's Ok because I
know they are our secret supporters and they are needed just as much as
on-the-air partners. Its just the way we are an individuals and hams.
That's what makes so great as a group.

Walt

-----Original Message-----
From: Charles Brain [mailto:chbrain@dircon.co.uk]
Sent: Thursday, November 18, 1999 2:20 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: High speed - wide bandwidth HF digital

Maybe we should be looking at non-profit organizations
outside the amateur community as potential users of
this technology ?

As far as the serial tone technology is concerned there
are a lot of people in the utility listening community
that are dying to get hold of Bobs modem to listen to
loads of five figure code groups or whatever. Even just
identifying the modem format seems to give them a buzz.

How about the MARS network ? Would they like to use
this stuff ? They seem to be all going digital, well they
dropped using the code from their networks.

There seem to be an awful lot of options that can be
explored.

- Charles

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] Re: High speed - wide bandwidth HF digital

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Thu, 18 Nov 1999 14:55:02 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50695-1999.11.18-15.08.48--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John,

I'm glad to know Army MARS is operating up on the east coast...its dead and
usless here in Texas.

Walt

-----Original Message-----
From: Scoggin, John K. Jr. [mailto:John.Scoggin@conectiv-comm.com]
Sent: Thursday, November 18, 1999 2:27 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: High speed - wide bandwidth HF digital

Speaking as an Army MARS guy, and as the operator of a
state HF/VHF gateway station, I would love to run something
other than HF Packet! It is painful to watch when the band
is noisy. We are starting to play with Clover - a combo of
FS-1052 and ALE would be ideal, if it weren't for the price...

john

John K. Scoggin, Jr.   Email: john.scoggin@conectiv-comm.com

Chief Technical Advisor   Phone: (302) 224-7200
Conectiv Communications   Fax: (302) 224-7220
PO Box 6066   Amateur: N3SKO
Newark, DE 19714-6066   Army MARS/SHARES: AAT3BF

Adjunct Assistant Professor   Email: scoggin@cis.udel.edu
University of Delaware   Phone: (302) 831-1028
Computer Science Dept.   Fax: (302) 831-8458
101B Smith Hall
Newark, DE 19716-2586

-----Original Message-----
From: Charles Brain [mailto:chbrain@dircon.co.uk]
Sent: Thursday, November 18, 1999 3:20 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: High speed - wide bandwidth HF digital

Maybe we should be looking at non-profit organizations
outside the amateur community as potential users of
this technology ?

As far as the serial tone technology is concerned there
are a lot of people in the utility listening community
that are dying to get hold of Bobs modem to listen to
loads of five figure code groups or whatever. Even just
identifying the modem format seems to give them a buzz.

How about the MARS network ? Would they like to use
this stuff ? They seem to be all going digital, well they
dropped using the code from their networks.

There seem to be an awful lot of options that can be
explored.

- Charles

You are currently subscribed to hfsig as: JOHN.SCOGGIN@CONECTIV-COMM.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: mt63lx-0.2.tgz available for downloading

From: "f1usa" <f1usa@wanadoo.fr>
Date: Thu, 18 Nov 1999 16:00:23 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50696-1999.11.18-15.11.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Walt ,

>I read a while ago of an experiment where two European hams
>communicated over a digital HF voice link which used less bandwidth
>than an analogue SSB channel. That is impressive and I wish it
>were more common. (Unfortunately it did not look easy/cheap to
>replicate the equipment used.)

Do you have additional info ?

73 de F1USA, Stéphane (Oleron island - France)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] Re: High speed - wide bandwidth HF digital

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Thu, 18 Nov 1999 16:44:37 -0500 (EST)

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50703-1999.11.18-15.58.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Speaking as an Army MARS guy, and as the operator of a
> state HF/VHF gateway station, I would love to run something
> other than HF Packet!

In my opinion, a well placed MARS individual should be making the case for
the use of a UHF FLEETSATELLITE channel for MARS. Hey, there are at least
a dozen Navy UHF satellites with dozens of UHF transponders on orbit.

Somone with the right pull in the right place should be able to convnice
the powers that be to let MARS have one narroband transponder... Anyone
can receive it with a scanner and a simple antenna. Transmitters are
simple too...

Problem is finding the right person at the right time with the right story
to telll

de WB4APR, Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

22. [hfsig] Re: mt63lx-0.2.tgz available for downloading

From: Hamish Moffatt <hamish@rising.com.au>
Date: Fri, 19 Nov 1999 09:06:08 +1100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50704-1999.11.18-16.19.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Nov 18, 1999 at 04:00:23PM +0100, f1usa wrote:
> >I read a while ago of an experiment where two European hams
> >communicated over a digital HF voice link which used less bandwidth
> >than an analogue SSB channel. That is impressive and I wish it
> >were more common. (Unfortunately it did not look easy/cheap to
> >replicate the equipment used.)

(Actually, I wrote the above.)

> Do you have additional info ?

Our local amateur news wrote the following:

  First digital voice HF contact made

   Two British amateurs have made what is thought to be the first amateur
   contact using digital voice on the HF bands. Charles Brain, G4GUO,
   near Worthing and Andy Talbot, G4JNT, near Southampton. succeeded in
   making contact on Saturday the 27th of March.

   The signals were generated entirely by Digital Signal Processing, or
   DSP techniques developed by G4GUO. They are based around a
   recently-developed Vocoder chip, capable of digitising voice at 2400
   bits per second. The resulting data, which included additional
   error-correction coding, was transmitted in the 7MHz band using 24
   modulated parallel tones spaced at 75Hz. The transmitted bandwidth was
   around 2kHz, somewhat less than that needed for normal SSB voice.

   Callsigns and reports were exchanged before the link faded and became
   unusable. As a point of interest, the RST reporting system becomes
   meaningless when applied to this mode. Readability is either perfect
   or non-existent, hence the R figure could be only 0 or 5.

http://www.chbrain.dircon.co.uk/ has more information
(G4GUO's web site).

Hamish VK3SB
--
Hamish Moffatt   Mobile: +61 412 011 176   hamish@rising.com.au
Rising Software Australia Pty. Ltd.   http://www.risingsoftware.com/
Phone: +61 3 9894 4788   Fax: +61 3 9894 3362   USA: 1 888 667 7839

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] Re: High speed - wide bandwidth HF digital

From: "Jack Taylor" <n7oo@theriver.com>
Date: Thu, 18 Nov 1999 15:47:15 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50713-1999.11.18-17.02.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I agree with Walt, for all practical purposes the MARS program in its present form, isn't worth pursuing. Several years ago I got permission to link our local army MARS voice repeaters into the ATS-3 Geosync bird. This was incredibly cheap and easy to do. ATS-3 gave coverage almost from pole to pole. After a couple successful live demonstrations, our leadership decided they didn't want this capability and I was told to disassemble the equipment. Since that time, I haven't observed any change in policy.

Regarding bandwidth issues, I don't see why this should be much different than running RTTY. Another approach might be to push for regulation changes similar to that presently used in Canada. As I understand it nearly any mode goes as long as it occupies no more space than a voice channel . Bandplaning from then on is done via gentleman's agreements.

73 de Jack

-----Original Message-----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Date: Thursday, November 18, 1999 2:45 PM
Subject: [hfsig] Re: High speed - wide bandwidth HF digital

>> Speaking as an Army MARS guy, and as the operator of a
>> state HF/VHF gateway station, I would love to run something
>> other than HF Packet!
>
>In my opinion, a well placed MARS individual should be making the case for
>the use of a UHF FLEETSATELLITE channel for MARS. Hey, there are at least
>a dozen Navy UHF satellites with dozens of UHF transponders on orbit.
>
>Somone with the right pull in the right place should be able to convnice
>the powers that be to let MARS have one narroband transponder... Anyone
>can receive it with a scanner and a simple antenna. Transmitters are
>simple too...
>
>Problem is finding the right person at the right time with the right story
>to telll
>
>de WB4APR, Bob
>
>
>---
>You are currently subscribed to hfsig as: n7oo@theriver.com
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Re: High speed - wide bandwidth HF digital

From: Hamish Moffatt <hamish@rising.com.au>
Date: Fri, 19 Nov 1999 11:02:47 +1100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50719-1999.11.18-18.37.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Nov 18, 1999 at 03:47:15PM -0700, Jack Taylor wrote:
> than running RTTY. Another approach might be to push for regulation changes
> similar to that presently used in Canada. As I understand it nearly any
> mode goes as long as it occupies no more space than a voice channel .
> Bandplaning from then on is done via gentleman's agreements.

That's the arrangement in Australia also. The "License Conditions Determination" merely specifies which emission modes are allowed, including bandwidth specifications, on which bands. The bandplan is then a gentleman's agreement as specified by the Wireless Institute of Australia. This seems to work quite well.

Hamish VK3SB
--
Hamish Moffatt Mobile: +61 412 011 176 hamish@rising.com.au
Rising Software Australia Pty. Ltd. http://www.risingsoftware.com/
Phone: +61 3 9894 4788 Fax: +61 3 9894 3362 USA: 1 888 667 7839

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

25. [hfsig] Re: High speed - wide bandwidth HF digital

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 19 Nov 1999 11:24:06 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50814-1999.11.19-04.42.29--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 20:19 18/11/99 +0000, you wrote:
>
>Maybe we should be looking at non-profit organizations
>outside the amateur community as potential users of
>this technology ?

Indeed, I think they could be. I have been colaborating with ISF (Ingenieros sin Fronteras), and have presented a project to the spanish goverment, to provide communications for medical support in the Amazonian jungle.

Eduardo/EA2BAJ

PD: I have also been told (but it is not confirmed) that at present, the store & forward satelites from Healthsat are almost with no use. Any ideas about that?

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

26. [hfsig] Re: High speed - wide bandwidth HF digital

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 19 Nov 1999 10:02:11 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50816-1999.11.19-04.56.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hamish Moffatt wrote:
>
> That's the arrangement in Australia also. The "License Conditions

It is similar in the U.K. The schedule to my licence says data transmission
is allowed on HF and further down it says data may include digital voice,
pictures telemetry etc. I have not looked recently but I believe it also says
that the bandwidth should be the minimum that the state of the art allows.

We too have gentle persons agreements, however there is a move to protect
the CW sub bands in readiness for the dropping of the C.W requirement when
international regulations allow. It has already been dropped to 5 wpm.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

27. [hfsig] Re: High speed - wide bandwidth HF digital

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 19 Nov 1999 10:28:30 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50818-1999.11.19-04.56.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

DuBose Walt GS-12 AETC CONS/LGCA wrote:
>
> Charles,
>
> communications support group, FEMA isn't much interested in old technology.
> Thus, they aren't going to look to ARS for support...and yes they use the

> government standard HF modems.
>

Yes a lot of SWL's that are using my ALE implementation are reporting FEMA
activity using ALE and serial tone. Also DEA and Columbian Navy. I would not
know about this as it is illegal for me to listen to such stuff.

> HF and higher frequency bands. In the U.S. today most of the V/UHF data is
> at 1200 baud when use of technology demands bit rates over 10K, hams are

I have been experimenting with a 50 tone version of my parallel tone modem
that uses a much higher baudrate and 16QAM and I have managed > 20 kbits/s
on a standard 9k6 ready FM radio. I still have some problems with the
channel equalization and before anyone asks, I have no plans to make this
available, I just wanted to see how fast it could go.

Harris now sell an applique for their new CNR that achieves 64kbits/s line
of site in a 25 Khz channel.

> the FCC and congress to enact laws that allows emergency management offices
> to request that cellular telephone companies restrict use of cellphone in

I believe the U.K cellular system had the ability to do this right from its
inception, there are various classes of user and service can be denied to them
when required.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

28. [hfsig] Re: High speed - wide bandwidth HF digital

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 19 Nov 1999 10:33:57 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50819-1999.11.19-04.56.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> is noisy. We are starting to play with Clover - a combo of
> FS-1052 and ALE would be ideal, if it weren't for the price...
>
> john

Well if playing is all you want, there is a Win95 implementation
of FS1045 on my website http://www.chbrain.dircon.co.uk/

There are some bugs in the transmit state machine when sending DTM/DBM
orderwire. Also I have not fully tested the slotted responses in Group/Net calls.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

29. [hfsig] Re: U.K Hams digital voice experiments

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 19 Nov 1999 09:54:35 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50815-1999.11.19-04.56.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

f1usa wrote:
> >I read a while ago of an experiment where two European hams

>
> Do you have additional info ?
>
> 73 de F1USA, Stéphane (Oleron island - France)
>

Stéphane it was me. The transmissions were on 7.040 USB used
an AMBE 1000 Vocoder and a 36 Tone parallel modem using
DQPSK, 2400 bps voice and 1200 bps FEC, the modem runs on a

Motorola 56002 EVM.

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

30. [hfsig] Re: High speed - wide bandwidth HF digital

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 19 Nov 1999 10:16:45 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50817-1999.11.19-04.56.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jack Taylor wrote:
>
> I agree with Walt, for all practical purposes the MARS program in its
> present form, isn't worth pursuing. Several years ago I got permission to

Oh thats a shame, they seem to be the ideal users for this type of technology.

>
> Regarding bandwidth issues, I don't see why this should be much different

Licence regulations apart, I think the main issue is what I call the SSTV syndrome.
The noise irritates SSB users.

I have also found that using modes that sound similar to military ones tend to
encourage band intrusions by non amateur stations.

Whether it was just a coincidence or not, on a couple of occasions during digital
voice tests we have found the channel becoming occupied by what sounded like Link-11
normally they wait for us to finnish first, but it was definitely not Amateur.

In Europe the whole of 80m is shared and there are more and more serial tone modems
operating in the band as well as ALE activity. Also above 14.300 there are a lot
of Russian 12 tone modems, the activity has increased recently for obvious reasons.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

31. [hfsig] Re: High speed - wide bandwidth HF digital

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 19 Nov 1999 08:52:40 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50852-1999.11.19-11.06.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 19 Nov 1999, Charles Brain wrote:

>
>
> Jack Taylor wrote:
>
> Licence regulations apart, I think the main issue is what I call the SSTV syndrome.
> The noise irritates SSB users.
>

This is what I think is one big problem; if you need to listen to
raw signals on the band in order to communicate, like CW and SSB,
noise-like signals are not compatible.

Modern digital communications are designed to tolerate natural
and man-made interference -- it does that quietly and patiently, so
the odds are against the human operator relying on his sensory faculties.

There also are some very strange operational habits that seems
to be sacred. A quiet CW band for CW operators for example,
does not necessarily mean the band is not in use. A seasoned operator
will tell you about distant noise crashes about the "state of the
band" -- "the band is open" etc ... or judge what is happening on

some other adjacent frequency. This dying "art" is becoming extinct
due to spectrum competition and noise pollution. Some of that we
must admit is the price of progress.

As an old nostalgic CW fantic (42 years since I learned it),
I am sad to see this happen, but does not bother me as much as
seeing CW being phased out in almost all services.

I like the idea of a band segment that clearly states usage
for digital communications regardless of its nature - that
could solve many problems.

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

32. [hfsig] Re: U.K Hams digital voice experiments

From: "f1usa" <f1usa@wanadoo.fr>
Date: Fri, 19 Nov 1999 14:58:04 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-50889-1999.11.19-15.00.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Charles,

>Stéphane it was me. The transmissions were on 7.040 USB used
>an AMBE 1000 Vocoder and a 36 Tone parallel modem using
>DQPSK, 2400 bps voice and 1200 bps FEC, the modem runs on a
>Motorola 56002 EVM.

Yes, I remember we talk a lot about AMBE1000 and this project few monthes
ago.
I suppose you're aware AMBE2000 is coming (if I trust their website).

I have followed your HF tests and success : you really make a good job.

Best 73 de F1USA, Stephane (Oleron Island).

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

33. [hfsig] Fw: [MT63] MT63-SB tests success !

From: "Paulus" <paulstra@xs4all.nl>
Date: Sat, 20 Nov 1999 16:44:35 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51025-1999.11.20-09.58.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

----- Oorspronkelijk bericht -----
Van: Paulus <paulstra@xs4all.nl>
Aan: <MT63@onelist.com>
Verzonden: zaterdag 20 november 1999 16:31
Onderwerp: [MT63] MT63-SB tests success !

> From: "Paulus" <paulstra@xs4all.nl>
>
> Hello all,
>
> We just finished an long test with MT63 for the soundcard (Beta 0.9 on
> Nino's website)
> YL2KF , IZ8BLY and myself could chat for about 2 hours using the 500 hz, 1
> khz and 2 khz mode with long interleave.
> The 1khz and 2 khz could combat perfectly the QRM (strong fone signals and
> even strong psk31 there hi), and our signals were weaker then the QRM !
> I tested the compatibility during this 3 way QSO with the EVM56 for the 1
> khz and 2 khz mode, and all was compatible.
> Will have to do the 500 hz mode on EVM56 soon.
> So well done Nino !
>
> You have to set the Date format to dd/MM/jj , but it will be changed soon

in
> an future upgrade.
> The & (ampersand) character will finish the TX but problem is an bit that
is
> not sure if all typed characters are being send.
> So best not to type to fast hi hi.
>
> Hearing again around 14.347 USB MT63 signals so will look aorund who is
> there.
>
> So give MT63 SB an try soon.
> Best is we agree on calling CQ for the 1 khz wide mode with long
interleave
> using USB !.
>
> Cheerio now
> have an fb weekend
> 73 de Paul, pa0ocd
>
> --------------------------- ONElist Sponsor ----------------------------
>
>   GRAB THE GATOR! FREE SOFTWARE DOES ALL THE TYPING FOR YOU!
> Tired of filling out forms and remembering passwords? Gator fills in
> forms and passwords with just one click! Comes with $50 in free coupons!
>   Click Here
>
> --
> - The MT63 Reflector -
>   MT63@onelist.com
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

34. [hfsig] RE: High speed - wide bandwidth HF digital

From: Robert McGwier <rwmcgwier@home.com>
Date: Sat, 20 Nov 1999 13:45:04 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51046-1999.11.20-12.59.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My personal opinion is that a hybrid of these approaches will be what is
necessary. While my normal mode of operation, as Barry and Harold
well know from regular professional dealings with me, is to ask forgiveness
rather permission. This is not one of them. Firstly, I have handled this as I
do all of my dealings that run tangentially or even directly along the
lines of my work, I have asked permission to distribute. I do not believe we
need to ask permission to experiment, but we should make some kind of
announcement that we expect to be able to experiment on voice grade
channels (3-3.5 Khz) and why don't we talk about it for a bit in some
appropriate
forum and then do it.

The reason for stating that we need a hybrid approach is that irrespective
of how much effort we make to be nice, when we start up in earnest,
it will sound like 80 meter alligator nets at first, and later, like 14.230
SSTV
channels with constant malicious interference eventually becoming mildly
tolerated. Sooner or later, some really inventive radio company will
decide it is in their best interest to incorporate one or more of these
digital modes in their equipment and probably vocoder techniques to
match. The modes had better be designed with REAL channels in mind.
Frankly, this is one of the things I find so gorgeous about FS1052 is
that its 75 bps mode, which acts like mini-spread and it addition, the
spec provides for multiple tone notches. It is a REAL mistake not
to have time and frequency diversity in any HF modem design.
The early designers of the Mil-Std. 188-110A1 and A3, and the
following on Stanag 4285, etc. were positively brilliant in their
design and really brought to bear all available DSP power at
the time of the designs. Some of this technology is being captured
in less robust, and somewhat similar modes, but not completely.
We as hams are willing to tolerate less robust modes but in the
end, if we wish to transfer digital voice, or files (C2C in general)
on HF, we must build with all scenarios in mind. Any mode
that can't tolerate a notch or two, or mitigate for impulsive noise,
and wide "whiter" noise, just will not win in the end.

Bob

At 02:25 PM 11/18/1999 -0500, you wrote:
>Walt,
>   I think your approach is really offensive. Yes, you do a good mouse trap.
>But, your approach to selling it will not make you any friends. Why not try to
>work within the ham community in general, publish your findings, and do
some on
>the air evangelism. Look at how PSK-31 took off. It was immediately understood
>how great it is, and within three months, the world jumped on it. I would
argue
>that this approach might be less ugly than the one I infer you propose.
See you
>on the digital modes.
>
>Vy 73,
>Barry
>K3NDM
>
>DuBose Walt GS-12 AETC CONS/LGCA wrote:
>
>> Johan,
>>
>> You have to do it just like we did it in the early SSB days...pick a
>> frequency or two on each band, don't publish them to the world, and go at
>> it...you get called names as we did...single slop bucket, etc. but stick and
>> stones may break our bones but words will never hurt us.
>>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

35. [hfsig] Re: High speed - wide bandwidth HF digital

From: Robert McGwier <rwmcgwier@home.com>
Date: Sat, 20 Nov 1999 13:49:25 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51048-1999.11.20-13.03.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I don't agree with this. We should look for and encourage
ANY organization that wants to use this technology, to
do so. There are so many groups that could benefit
from using digital vocoder technology and reliable
HF C2C comms that are outside of the normal users,
that it would be a mistake for us to limit our dealings,
IN GENERAL, to non-profit groups.   The best way to
get good cheap technology into the hands of non-profits,
such as UN agencies, and other NGO's (e.g.: medicins sans
frontieres) that regularly use HF comms in far away lands
is for them to be able to easily purchase inexpensive
versions of implementations of these things commercially
rather than having to have the unlikely good fortune of having
a computer wizard with them in the middle of a disaster,
famine, war, etc. zone.

Bob

At 08:19 PM 11/18/1999 +0000, you wrote:
>
>Maybe we should be looking at non-profit organizations
>outside the amateur community as potential users of
>this technology ?
>
>As far as the serial tone technology is concerned there
>are a lot of people in the utility listening community
>that are dying to get hold of Bobs modem to listen to
>loads of five figure code groups or whatever. Even just
>identifying the modem format seems to give them a buzz.
>
>How about the MARS network ? Would they like to use
>this stuff ? They seem to be all going digital, well they
>dropped using the code from their networks.

>
>There seem to be an awful lot of options that can be
>explored.
>
>- Charles
>
>---
>You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

36. [hfsig] RE: High speed - wide bandwidth HF digital

From: forrerj@peak.org (Johan Forrer)
Date: Sat, 20 Nov 1999 11:22:13 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51054-1999.11.20-13.36.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob,

Looks like the fun is about to start -- exciting times:

Folks probably seen announcements that the sound
card versions for MT63-Linux is on the air, also the first
tests for MT63-Windows were very successful. I suspect
a buzz of activity starting up in Europe.

Now that FS1052 is about to come on line, I do hope that folks
doing testing please use some form of announcement: CW or
voice so that others knows that these are amateur radio stations
not intruders.

Thanks, 73

Johan, KC7WW

>need to ask permission to experiment, but we should make some kind of
>announcement that we expect to be able to experiment on voice grade
>channels (3-3.5 Khz) and why don't we talk about it for a bit in some
>appropriate
>forum and then do it.
>
>The reason for stating that we need a hybrid approach is that irrespective
>of how much effort we make to be nice, when we start up in earnest,
>it will sound like 80 meter alligator nets at first, and later, like 14.230
>SSTV
>channels with constant malicious interference eventually becoming mildly
>tolerated. Sooner or later, some really inventive radio company will
>decide it is in their best interest to incorporate one or more of these
>digital modes in their equipment and probably vocoder techniques to
>match. The modes had better be designed with REAL channels in mind.
>Frankly, this is one of the things I find so gorgeous about FS1052 is
>that its 75 bps mode, which acts like mini-spread and it addition, the
>spec provides for multiple tone notches. It is a REAL mistake not
>to have time and frequency diversity in any HF modem design.
>The early designers of the Mil-Std. 188-110A1 and A3, and the
>following on Stanag 4285, etc. were positively brilliant in their
>design and really brought to bear all available DSP power at
>the time of the designs. Some of this technology is being captured
>in less robust, and somewhat similar modes, but not completely.
>We as hams are willing to tolerate less robust modes but in the
>end, if we wish to transfer digital voice, or files (C2C in general)
>on HF, we must build with all scenarios in mind. Any mode
>that can't tolerate a notch or two, or mitigate for impulsive noise,
>and wide "whiter" noise, just will not win in the end.
>
>Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

37. [hfsig] Re: High speed - wide bandwidth HF digital

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sat, 20 Nov 1999 19:59:12 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51101-1999.11.20-14.14.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert McGwier wrote:
>
> I don't agree with this. We should look for and encourage
.
.
.
> >
> >- Charles

Well it's your software! I only said non-profit as I have noticed
a lot of people put conditions in the copyright notices of their
S/W and I did not want to step on anyones toes.

- Chas

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

38. [hfsig] Re: High speed - wide bandwidth HF digital

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 20 Nov 1999 22:00:03 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51120-1999.11.20-16.25.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

HF Siggers -

You guys might like to think on the most suitable place to be experimenting
with the new wider HF modes. You may have noticed a few experiments with
MT-63 on 14.347 USB, and I understand that Charles G4GUO has been working
there too.

I know there aren't many of us, but is this frequency OK with everybody for
more
than one mode? Are there other (more conventional) mode users there that
might
be upset?

Comments?

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

39. [hfsig] Re: High speed - wide bandwidth HF digital

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 20 Nov 1999 22:05:56 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51119-1999.11.20-16.24.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here's an open note for Charles G4GUO and others who have
dabbled with his excellent digital voice experiment.

Charles,
Have you considered using the modem you designed for other
digital modes? I was wondering in particular about grafting
a Varicode based 256 character alphabet and some good FEC
on top, which would make for an excellent high speed digital
mode with multi-lingual support.

Also, I recognise the similarity between what you have there
and Pawel's MT63, now about to spread its wings in Linux
and Win95 formats. Have you tried MT63, and how does your
modem compare?

I'm an EVM user, so of course interested in trying anything new
that will work with the EVM.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

40. [hfsig] Re: High speed - wide bandwidth HF digital

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sat, 20 Nov 1999 22:19:29 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51122-1999.11.20-16.34.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Coombe Down wrote:
>
> Here's an open note for Charles G4GUO and others who have
> dabbled with his excellent digital voice experiment.
>
> Charles,
> Have you considered using the modem you designed for other
> digital modes? I was wondering in particular about grafting

Hello Murray,

Yes I had but for data I am waiting for Bobs modem as it is more suitable
than mine.

I am also looking at the possibility of using the parallel tone format
for sending high speed data over conventional unmodified FM radios as
you can control the frequency response to match the radio. I have a partially
functioning 16QAM modem but it will be a while before it is ready for Joe Ham.

Also I am working on building another vocoder board that uses soft decision FEC
and will have to modify the modem anyway.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

41. [hfsig] Re: High speed - wide bandwidth HF digital

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 22 Nov 1999 11:39:58 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51323-1999.11.22-04.54.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>such as UN agencies, and other NGO's (e.g.: medicins sans
>frontieres) that regularly use HF comms in far away lands
>is for them to be able to easily purchase inexpensive
>versions of implementations of these things commercially
>rather than having to have the unlikely good fortune of having
>a computer wizard with them in the middle of a disaster,
>famine, war, etc. zone.

Yes, that true. But I think that they also would like to have something good and easy to setup. I am thinking in something like a Windows freebie program along with a sb interface. At least here, many ONG stick to GTOR (first) and Pactor (2nd), they don't think normally in CLover or Pactor-2, because of the price. The problems is that there are not fleet purchases that could led in better prices as they normally only solve point to point problems.

I really think that a portable station for disaster management could be a Portable PC with a SB, an interface and a IC-706, or Yaesu FT-100, everything could be powered by 12v. For software?, think of a graphical interface where you put and/or get (binary) files, or chat, everything at a time (do you recall of bimodem protocol on early BBS times?) I am not even thinking of ALE setups.

Eduardo/EA2BAJ

PD: I really think that the big point about these new experiments is that the birth of new popular modes is now really approaching and we will be able to have better modes than pactor-2 and clover and for

nontech-friendly users. This has already happened once with G3PLX and PSK31 and it's begining to happen again now with MT63 and Nino IZ8BLY work using Pawel sources. I am almost sure that once Bob releases his source code, there will be a Joe XXXXX that will produce a Windows+SB version for free, and everybody will begin to use it. How much time and which mode will survive?, the "market" will tell us.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

42. [hfsig] ID of High speed - wide bandwidth HF digital signals

From: Mastenbrook Gary-G13216 <Gary.Mastenbrook@motorola.com>
Date: Mon, 22 Nov 1999 07:50:30 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51338-1999.11.22-08.04.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan,
I liked the comment about announcing the transmission, but that's likely to work only to a point. Sooner or later someone will show up on frequency just after the announcement, and then complain about the intruder (or jam them too?).

After thinking about it for a moment, I had the idea that since we're doing some inventing in terms of software development here, that we might add a special identifier to the signal (for human readers not automated readers). Why not add in a slow CW identifier which runs continuously during transmit at either outside edge of the signal. Maybe put it 6-10 dB down so we don't waste too much TX power, but keep it high enough in level so that the fantastic/wonderful signal processing function built into our brains can actually decode it? This will likely cost us another 100 Hz or so in bandwidth, but what's 100 Hz among friends anyway?

I haven't done any study on this specific function, but have noticed in the past that in the presence of somewhat continuous man-made "noise", that CW sticks out pretty well! Maybe use 10 wpm or so? Not too fast, not too slow...

By doing this, we take away the intruder claims, and hopefully reduce the jammer ones too.

73's

Gary N8DMT

Gary Mastenbrook, Technology Manager, Motorola Telematics
50 E. Commerce Drive, Schaumburg, IL 60173
Email: g13216@email.mot.com
Work Home Page: http://www.mot.com
Personal Home Page: http://www.qsl.net/n8dmt

-----Original Message-----
From: forrerj@peak.org [mailto:forrerj@peak.org]
Sent: Saturday, November 20, 1999 1:22 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: High speed - wide bandwidth HF digital

Bob,

Looks like the fun is about to start -- exciting times:

Folks probably seen announcements that the sound
card versions for MT63-Linux is on the air, also the first
tests for MT63-Windows were very successful. I suspect
a buzz of activity starting up in Europe.

Now that FS1052 is about to come on line, I do hope that folks
doing testing please use some form of announcement: CW or
voice so that others knows that these are amateur radio stations
not intruders.

Thanks, 73

Johan, KC7WW

>need to ask permission to experiment, but we should make some kind of
>announcement that we expect to be able to experiment on voice grade

>channels (3-3.5 Khz) and why don't we talk about it for a bit in some
>appropriate
>forum and then do it.
>
>The reason for stating that we need a hybrid approach is that irrespective
>of how much effort we make to be nice, when we start up in earnest,
>it will sound like 80 meter alligator nets at first, and later, like 14.230
>SSTV
>channels with constant malicious interference eventually becoming mildly
>tolerated. Sooner or later, some really inventive radio company will
>decide it is in their best interest to incorporate one or more of these
>digital modes in their equipment and probably vocoder techniques to
>match. The modes had better be designed with REAL channels in mind.
>Frankly, this is one of the things I find so gorgeous about FS1052 is
>that its 75 bps mode, which acts like mini-spread and it addition, the
>spec provides for multiple tone notches. It is a REAL mistake not
>to have time and frequency diversity in any HF modem design.
>The early designers of the Mil-Std. 188-110A1 and A3, and the
>following on Stanag 4285, etc. were positively brilliant in their
>design and really brought to bear all available DSP power at
>the time of the designs. Some of this technology is being captured
>in less robust, and somewhat similar modes, but not completely.
>We as hams are willing to tolerate less robust modes but in the
>end, if we wish to transfer digital voice, or files (C2C in general)
>on HF, we must build with all scenarios in mind. Any mode
>that can't tolerate a notch or two, or mitigate for impulsive noise,
>and wide "whiter" noise, just will not win in the end.
>
>Bob

You are currently subscribed to hfsig as: G13216@EMAIL1.WES.MOT.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

43. [hfsig] Re: ID of High speed - wide bandwidth HF digital signals

From: Pawel Jalocha <jalocha@home-gate.ifj.edu.pl>
Date: Mon, 22 Nov 1999 14:37:00 +0100 (CET)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51339-1999.11.22-08.16.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

> After thinking about it for a moment, I had the idea that since we're doing
> some inventing in terms of software development here, that we might add a
> special identifier to the signal (for human readers not automated readers).
> Why not add in a slow CW identifier which runs continuously during transmit
> at either outside edge of the signal. Maybe put it 6-10 dB down so we don't
> waste too much TX power, but keep it high enough in level so that the
> fantastic/wonderful signal processing function built into our brains can
> actually decode it? This will likely cost us another 100 Hz or so in
> bandwidth, but what's 100 Hz among friends anyway?
>
> I haven't done any study on this specific function, but have noticed in the
> past that in the presence of somewhat continuous man-made "noise", that CW
> sticks out pretty well! Maybe use 10 wpm or so? Not too fast, not too
> slow...
>
> By doing this, we take away the intruder claims, and hopefully reduce the
> jammer ones too.

This can be done for the MT63. I will think of it.
For the 1000 Hz mode the CW ID would take 15 Hz of bandwidth
plus another 15 or 30 Hz maybe to stay away from the digital signal.

Pawel

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

44. [hfsig] Re: ID of High speed - wide bandwidth HF digital signals

From: Charles Brain <chbrain@dircon.co.uk>
Date: Mon, 22 Nov 1999 15:51:57 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51357-1999.11.22-10.21.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mastenbrook Gary-G13216 wrote:

> Why not add in a slow CW identifier which runs continuously during transmit

A CW ID is a legal requirement in the U.K so I am happy with this suggestion.

However, Stanag 4285 requires a full 3 khz B/W and I assume MIL-STD 188-110A
does as well. That is not a problem here as I am using a transceiver with
programmable TX and RX DSP filters but it maybe a problem on some older equipment.

What say Bob ?

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

45. [hfsig] MT63 Web Site.

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Tue, 23 Nov 1999 10:16:23 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51530-1999.11.23-04.35.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Folks,

I am in the process of updating the MT63 Web site at
http://www.qsl.net/zl1bpu/MT63/MT63.html.

I realise what is there at present is out of date and inadequate,
so if there is something you specifically would like to see,
please let me know.

I plan to host the software for EVM, Linux and Windows. I have
already written much of the upgrade, and it should be uploaded
before the weekend.

This is your show - if you want something out there, let me know!

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

46. [hfsig] Re: MT63 Web Site.

From: BUDW8RQQ@aol.com
Date: Tue, 23 Nov 1999 10:50:32 EST
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51573-1999.11.23-10.04.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

47. [hfsig] (no subject)

From: BUDW8RQQ@aol.com
Date: Tue, 23 Nov 1999 10:57:30 EST
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51574-1999.11.23-10.11.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

<< hfsig-3431E@lists.tapr.org >>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

48. [hfsig] New MT63 v0.4 for Linux with CW ID.

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Wed, 24 Nov 1999 09:22:17 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51716-1999.11.24-11.36.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

The latest version of MT63 (0.4) is available for downloading
from my web page (www.peak.org/~forrerj). I added a short note
about MT63's internals for those interested.

The latest version now has CW ID on a tone below the
lowest of the MT63 ensemble. It is on all the time during the
transmission so one can tell who is on the air. Look
for these tests around 14.347 MHz USB (suppressed
carrier frequency, i.e., dial reading.)

Also note the Windows version for MT63 is available
from http://ninopo.freenet.org.
I have not tried that one as yet, but judging from reports,
it is working great.

Have fun, 73

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

49. [hfsig] Re: New MT63 v0.4 for Linux with CW ID.

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Wed, 24 Nov 1999 11:05:22 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: HFSIG@tapr.org
Message-ID: <LYR4070-51719-1999.11.24-13.19.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Larry,

Sorry, my mistake. URL is:

http://ninipo.freeweb.org

Thanks for pointing this out.

Johan, KC7WW

On Wed, 24 Nov 1999, Laurence A Bay wrote:

> http://ninopo.freenet.org.
>
> The above doesn't work. Is it premature or does the URL have a problem?
>
>
> Or do I have a problem?
>
> Regards
>
> -Larry
> W1DOY
>
>
> -----Original Message-----
> From: Johan Forrer <forrerj@PEAK.ORG>
> To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
> Date: Wednesday, November 24, 1999 11:16 AM

> Subject: [hfsig] New MT63 v0.4 for Linux with CW ID.
>
>
> >Hi All,
> >
> >The latest version of MT63 (0.4) is available for downloading
> >from my web page (www.peak.org/~forrerj). I added a short note
> >about MT63's internals for those interested.
> >
> >The latest version now has CW ID on a tone below the
> >lowest of the MT63 ensemble. It is on all the time during the
> >transmission so one can tell who is on the air. Look
> >for these tests around 14.347 MHz USB (suppressed
> >carrier frequency, i.e., dial reading.)
> >
> >Also note the Windows version for MT63 is available
> >from http://ninopo.freenet.org.
> >I have not tried that one as yet, but judging from reports,
> >it is working great.
> >
> >Have fun, 73
> >
> >
> >Johan, KC7WW
> >
> >
> >---
> >You are currently subscribed to hfsig as: LABAY@ZEBRA.NET
> >To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> >
> >
>
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

50. [hfsig] Re: New MT63 v0.4 for Linux with CW ID.

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 24 Nov 1999 11:16:12 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: HFSIG@tapr.org
Message-ID: <LYR4070-51722-1999.11.24-13.30.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hope I get it right this time!

http://ninopo.freeweb.org

Johan

On Wed, 24 Nov 1999, Johan Forrer wrote:

> Larry,
>
> Sorry, my mistake. URL is:
>
> http://ninipo.freeweb.org
>
>
> Thanks for pointing this out.
>
> Johan, KC7WW
>
>
>
>
>
> On Wed, 24 Nov 1999, Laurence A Bay wrote:
>
> > http://ninopo.freenet.org.
> >

> > The above doesn't work. Is it premature or does the URL have a problem?
> >
> >
> > Or do I have a problem?
> >
> > Regards
> >
> > -Larry
> > W1DOY
> >
> >
> > -----Original Message-----
> > From: Johan Forrer <forrerj@PEAK.ORG>
> > To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
> > Date: Wednesday, November 24, 1999 11:16 AM
> > Subject: [hfsig] New MT63 v0.4 for Linux with CW ID.
> >
> >
> > >Hi All,
> > >
> > >The latest version of MT63 (0.4) is available for downloading
> > >from my web page (www.peak.org/~forrerj). I added a short note
> > >about MT63's internals for those interested.
> > >
> > >The latest version now has CW ID on a tone below the
> > >lowest of the MT63 ensemble. It is on all the time during the
> > >transmission so one can tell who is on the air. Look
> > >for these tests around 14.347 MHz USB (suppressed
> > >carrier frequency, i.e., dial reading.)
> > >
> > >Also note the Windows version for MT63 is available
> > >from http://ninopo.freenet.org.
> > >I have not tried that one as yet, but judging from reports,
> > >it is working great.
> > >
> > >Have fun, 73
> > >
> > >
> > >Johan, KC7WW
> > >
> > >
> > >---
> > >You are currently subscribed to hfsig as: LABAY@ZEBRA.NET
> > >To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> > >
> > >
> >
> >
> >
> >
> >
> > ---
> > You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> >
> >

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

51. [hfsig] Re: New MT63 v0.4 for Linux with CW ID.

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Wed, 24 Nov 1999 11:20:53 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51725-1999.11.24-13.35.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hope I get it right this time!

The Windows version for MT63 is at:

http://ninopo.freeweb.org

Johan,KC7WW

>

> On Wed, 24 Nov 1999, Johan Forrer wrote:
>
> > Larry,
> >
> > Sorry, my mistake. URL is:
> >
> > http://ninipo.freeweb.org
> >
> >
> > Thanks for pointing this out.
> >
> > Johan, KC7WW
> >
> >
> >
> >
> >
> > On Wed, 24 Nov 1999, Laurence A Bay wrote:
> >
> > > http://ninopo.freenet.org.
> > >
> > > The above doesn't work. Is it premature or does the URL have a problem?
> > >
> > >
> > > Or do I have a problem?
> > >
> > > Regards
> > >
> > > -Larry
> > > W1DOY
> > >
> > >
> > > -----Original Message-----
> > > From: Johan Forrer <forrerj@PEAK.ORG>
> > > To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
> > > Date: Wednesday, November 24, 1999 11:16 AM
> > > Subject: [hfsig] New MT63 v0.4 for Linux with CW ID.
> > >
> > >
> > > >Hi All,
> > > >
> > > >The latest version of MT63 (0.4) is available for downloading
> > > >from my web page (www.peak.org/~forrerj). I added a short note
> > > >about MT63's internals for those interested.
> > > >
> > > >The latest version now has CW ID on a tone below the
> > > >lowest of the MT63 ensemble. It is on all the time during the
> > > >transmission so one can tell who is on the air. Look
> > > >for these tests around 14.347 MHz USB (suppressed
> > > >carrier frequency, i.e., dial reading.)
> > > >
> > > >Also note the Windows version for MT63 is available
> > > >from http://ninopo.freenet.org.
> > > >I have not tried that one as yet, but judging from reports,
> > > >it is working great.
> > > >
> > > >Have fun, 73
> > > >
> > > >
> > > >Johan, KC7WW
> > > >
> > > >
> > > >---
> > > >You are currently subscribed to hfsig as: LABAY@ZEBRA.NET
> > > >To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> > > >
> > > >
> > > >
> > > >
> > > >
> > >
> > >
> > > ---
> > > You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> > > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> > >
> > >
> >
> >

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

52. [hfsig] MT63 web site upgrade

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Wed, 24 Nov 1999 12:23:49 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-51740-1999.11.24-14.37.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

==== MT63 Web Site Upgrade ======================
Folks,

There has been a major rev-up of the MT63 web site at

http://www.qsl.net/zl1bpu/MT63/MT63.html

and I'd like you all to check it out and let me know what
needs correcting or updating.

The site now hosts the latest MT63 software for all
platforms -

* Motorola DSP56002 EVM (with DOS or Windows)
* LINUX PC with Soundblaster card
* Win 95/98/NT PC with Soundblaster card

My grateful thanks to those busy beavers, Pawel, Johan and Nino.

73,

Murray ZL1BPU
==

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

53. [hfsig] Re: High speed - wide bandwidth HF digital

From: "B.Haineault" <bhaineault@home.com>
Date: Sat, 27 Nov 1999 21:17:49 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-52126-1999.11.27-23.31.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As hams, we should experiment with new voice & data modes. After all, "hams"
are supposed to be experimenters. It frustrates me to hear the "old boys"
complain whenever they feel threatened by a new mode. Mind you, I have been
an active ham since 1970... but I love to play with new modes. The nature of
my work does permit me to test and use new waveforms over HF (experimental
frequencies).

While on the subject, several MIL groups are experimenting with
"CLOVER-2000" modems & "DTS-Gateway" (HF Data Traffic Management System. It
provides a gateway between LANs, VHF/UHF, SATCOM and HF). It uses FS-1045A
ALE and a non-MIL modem. MS-110A (and the newer MS-110B) serial-tone
waveforms are optional... at a much higher price.

There are many "CLOVER-2000" based systems deployed around the world. These
typically run at 2000 bps+ with a higher "perceived throughput" due to
compression. You will find them in MIL, diplo and utility nets. The main
reason is the cost. CLOVER-2000 modems provide error-free exchanges (ARQ)
while to achieve the same with MS-110A modems, you need to implement a
proprietary ARQ algorithm or use FS-1052 (you can also opt for the $$$
MS-110B).

COTS (or price vs performance) wins out !

73, de Bruno Haineault, KF6QDP/VE2EQ
Oceanside, California

ICQ Pager #: 335336
ICQ Pager address: http://wwp.mirabilis.com/335336

> -----Original Message-----
> From: bounce-hfsig-3409@lists.tapr.org
> [mailto:bounce-hfsig-3409@lists.tapr.org]On Behalf Of Scoggin, John K.
> Jr.
> Sent: Thursday, November 18, 1999 12:27
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Re: High speed - wide bandwidth HF digital
>
>
> Speaking as an Army MARS guy, and as the operator of a
> state HF/VHF gateway station, I would love to run something
> other than HF Packet! It is painful to watch when the band
> is noisy. We are starting to play with Clover - a combo of
> FS-1052 and ALE would be ideal, if it weren't for the price...
>
> john
>
> John K. Scoggin, Jr.   Email: john.scoggin@conectiv-comm.com
> Chief Technical Advisor   Phone: (302) 224-7200
> Conectiv Communications   Fax: (302) 224-7220
> PO Box 6066   Amateur: N3SKO
> Newark, DE 19714-6066   Army MARS/SHARES: AAT3BF
>
> Adjunct Assistant Professor   Email: scoggin@cis.udel.edu
> University of Delaware   Phone: (302) 831-1028
> Computer Science Dept.   Fax: (302) 831-8458
> 101B Smith Hall
> Newark, DE 19716-2586
>
> -----Original Message-----
> From: Charles Brain [mailto:chbrain@dircon.co.uk]
> Sent: Thursday, November 18, 1999 3:20 PM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Re: High speed - wide bandwidth HF digital
>
>
>
> Maybe we should be looking at non-profit organizations
> outside the amateur community as potential users of
> this technology ?
>
> As far as the serial tone technology is concerned there
> are a lot of people in the utility listening community
> that are dying to get hold of Bobs modem to listen to
> loads of five figure code groups or whatever. Even just
> identifying the modem format seems to give them a buzz.
>
> How about the MARS network ? Would they like to use
> this stuff ? They seem to be all going digital, well they
> dropped using the code from their networks.
>
> There seem to be an awful lot of options that can be
> explored.
>
> - Charles
>
> ---
> You are currently subscribed to hfsig as: JOHN.SCOGGIN@CONECTIV-COMM.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> ---
> You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

54. [hfsig] Re: hfsig digest: November 27, 1999

From: Patricia Gibbons <wa6ube@ix.netcom.com>
Date: Sat, 27 Nov 1999 22:27:50 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Message-ID: <LYR4070-52140-1999.11.28-00.51.31--lyris.hfsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

John Scoggin wrote:
> >
> > Speaking as an Army MARS guy, and as the operator of a
> > state HF/VHF gateway station, I would love to run something
> > other than HF Packet! It is painful to watch when the band
> > is noisy. We are starting to play with Clover - a combo of
> > FS-1052 and ALE would be ideal, if it weren't for the price...
> >
> > john
> >
> > John K. Scoggin, Jr.   Email: john.scoggin@conectiv-comm.com
> > Chief Technical Advisor   Phone: (302) 224-7200
> > Conectiv Communications   Fax: (302) 224-7220
> > PO Box 6066   Amateur: N3SKO
> > Newark, DE 19714-6066   Army MARS/SHARES: AAT3BF
> >
> > Adjunct Assistant Professor   Email: scoggin@cis.udel.edu
> > University of Delaware   Phone: (302) 831-1028
> > Computer Science Dept.   Fax: (302) 831-8458
> > 101B Smith Hall
> > Newark, DE 19716-2586
> >

John, for info, I have a Motorola MICOM-2R in a privately-owned comvan
(see the URL below in my signature line) that I am setting up to run
ALE & HF Data to/from our City of San Jose EOC.

As part of Y2K planning, our EOC now has a MICOM-2E
(the non-ruggedized flavor) and will be setting up tests via 80
and 40 meters on selected channels..

Back in October 1999, I e-mailed the Wireless Telecommunications Bureau
after discussing amateur use of ALE with Riley Hollingsworth.
Riley forwarded my request to the bureau, and I was put in touch with
a specific person there.

I presented the rationale and also the basis and purpose
of a proposed use of ALE. I then requested a favorable
interpretation of Part 97 in this regard.

Reading the existing rules carefully, the determining
issue may be regarding proper station ID.
Exchanging LQA reports, either manually, or
via soundings does fall into the area of telemetery, which is
covered under Part 97..

Since ALE is a fed and mil standard, and is a published
protocol, the protocol itself should not be an issue
either other than the bandwidth of the 8-ary modem.

To date, I have not received an "official" reply from the
Commission. Neither have I received a "NO" on the request.

We will be implementing some testing of a "modified" use of
Mil-Std 188-141/FED-Std 1045A and it will be used as part of an
emergency exercise on December 11th, 1999. This testing will
be only in the voice-section of the 80 and 40 meter bands.

I have 72 channels defined in the ALE scan list, and am
willing to share that info with you, if you like.

Both radios will be scanning when not in use. The operator
of the station wishing to make a link will then search the
channel list for a frequency that is vacant, and then put
out a scanning call in ALE after announcing in voice the
callsign of the station making the transmission. The radio
at the other end will then scan to the active channel and
respond, also alerting the operator of the station being
called that there is a link request.

This plan will allow some frequency agility without having
both operators having to pre-plan what band or channel
to be used. The calling station will be the active
participant in establishing a link.

This isn't the "best" way to implement ALE, but it,
at least, is a start.

The two radios will be set for manual sounding only,
and the exchange of LQA scores will be via bi-directional
handshake instead of periodic sounding messages.

This method will allow an ID in either voice or CW by the
operators, as part of linking.

The ALE protocol only allows the automatic transmission
of the actual ALE ID.

The ALE protocol does not support CW ID in addition to the
ALE address unfortunately. ALE id's will be amateur callsigns
in any event.

Currently, our City OES has A TOR mailbox on 75 meters
via the use of a KAM Plus, and a Harris RF3200. It will
currently, automatically respond to connect requests
in amtor, pactor, or gtor modes.

Any of these modes is a sizable improvement over
HF packet!! Pactor II is the best method as far
as I can tell. Next, in my opinion, is Gtor which
we use most of the time..

After the transition to the pair of MICOM-2R/2E units,
we will be migrating to SCS Pactor II controllers as they
perform much better under marginal signal quality condx.

There was an article in QST in 1995 about ALE in the amateur
radio service, but have seen no further developments in this
direction.. In the meantime, since our organization has the
equipment, we will be testing on a limited basis without the
implementation of automatic soundings..

For further info, please e-mail me at:
<wa6ube@ix.netcom.com> or
<patricia.gibbons@ci.sj.ca.us>

Trish
--

Patricia E. Gibbons
Chief Communications Technician
City of San Jose - ITD/communications
<http://www.qrz.com/callsign.html?callsign=wa6ube>
....
My Public Key is available at:
<http://pgp5.ai.mit.edu:11371/pks/lookup?op=vindex&search=0xEDECB44F>
Key ID: 0xEDECB44F
This key is RSA, NOT Diffie-Hellman !!

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

55. [hfsig] Re: High speed - wide bandwidth HF digital

From: Robert McGwier <rwmcgwier@home.com>
Date: Tue, 30 Nov 1999 20:33:14 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-52536-1999.11.30-19.47.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:17 PM 11/27/1999 -0800, you wrote:
>As hams, we should experiment with new voice & data modes. After all, "hams"
>are supposed to be experimenters. It frustrates me to hear the "old boys"
>complain whenever they feel threatened by a new mode. Mind you, I have been
>an active ham since 1970... but I love to play with new modes. The nature of
>my work does permit me to test and use new waveforms over HF (experimental
>frequencies).
>
>While on the subject, several MIL groups are experimenting with
>"CLOVER-2000" modems & "DTS-Gateway" (HF Data Traffic Management System. It
>provides a gateway between LANs, VHF/UHF, SATCOM and HF). It uses FS-1045A
>ALE and a non-MIL modem. MS-110A (and the newer MS-110B) serial-tone
>waveforms are optional... at a much higher price.
>
>There are many "CLOVER-2000" based systems deployed around the world. These
>typically run at 2000 bps+ with a higher "perceived throughput" due to
>compression. You will find them in MIL, diplo and utility nets. The main

>reason is the cost. CLOVER-2000 modems provide error-free exchanges (ARQ)
>while to achieve the same with MS-110A modems, you need to implement a
>proprietary ARQ algorithm or use FS-1052 (you can also opt for the $$$
>MS-110B).
>

Soon you too will be able to experiment MS110A1 and I hope within a year
MS110A3 demodulators. Please refer to the TAPR conference proceedings
at tapr.org.

I know, I know, when? SOON. It is a royal pain in the butt.

Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

December 1999

Original source file: hfsig.9912
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.9912

1. [hfsig] French PSK31 for SB 1.05 help file (in .pdf format)

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 10 Dec 1999 16:36:31 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-54439-1999.12.10-09.52.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new .pdf file in french translated from the p31sbw105 help file by Maurice F6IIE. It's available as:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw105pdf-f.pdf

and

http://www.kender.es/~edu/download/p31sbw105pdf-f.pdf

Eduardo/EA2BAJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] PSK31 in the Las Vegas Area!

From: "John J. Held" <n6pjp@hotmail.com>
Date: Fri, 10 Dec 1999 10:35:53
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-54450-1999.12.10-10.50.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is there anybody in the Las Vegas of whom subscribes to this web page. If there is I am looking for somebody in the Vegas area who may be into or have experience with the PSK31 Mode. Please contact me at n6pjp@hotmail.com.

Thanks. John N6PJP

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: French PSK31 for SB 1.05 help file (in .pdf format)

From: "Leo (Bing) Whiteway" <bingw@okanagan.net>
Date: Sun, 12 Dec 1999 22:40:32 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-54918-1999.12.13-01.12.30--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Eduardo Jacob wrote:
>
> There is a new .pdf file in french translated from the p31sbw105 help file by Maurice F6IIE. It's available as:
>
> ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw105pdf-f.pdf
>
> and
>
> http://www.kender.es/~edu/download/p31sbw105pdf-f.pdf
>
>   Eduardo/EA2BAJ
>
> ---
> You are currently subscribed to hfsig as: VE7UW@RAC.CA
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

--

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] NEWQPSK (Q15X25) for linux released

From: Tomi Manninen <tpm@prkele.tky.hut.fi>
Date: Wed, 15 Dec 1999 01:02:05 +0200 (EET)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-55198-1999.12.14-17.17.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

I just uploaded newqpsk-0.0.1.tar.gz, a Linux / soundcard implementation
of the 15 tone parallel AX.25 compatible HF modem to ftp.hes.iki.fi.
The original modem was by Pawel Jalocha, SP9VRC for the DSP56002EVM and my
work is a port of that code to Linux.

This is to be considered a beta release. All features of the original
modem are not yet implemented, setting up the modem might be a bit tricky
and there are still some issues to be solved. However it is functional and
I have used it for real life QSOs with performance comparable to Pawels
original modem. So please test it and report any success or failure to me!

Here is the URL:

  ftp://ftp.hes.iki.fi/pub/ham/linux/ax25/newqpsk-0.0.1.tar.gz

Please read the README and INSTALL files first and have fun!

--
Tomi Manninen   Internet: oh2bns@sral.fi
OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Software HF Channel Simulator needed!

From: "Fernando Carreiro" <fmi@carreiro.com>
Date: Sun, 26 Dec 1999 17:43:14 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-56760-1999.12.26-12.01.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear SIG,

    Any known where I can get hold of a Software Implementation of a HF Channel Simulator - something that will take a .WAV file as an input and produce another .WAV file output of the input signal distorted by the HF Channel? No need for real-time simulation, just something that will work with data files of some kind and for the audio frequency bandwidth. Hopefully a freeware or shareware implementation that will run on Windows and simulate up to 3 paths, with fading, Doppler spread, Gaussian noise and impulse noise.

    I will most grateful for any info that will lead me to such a Software HF Channel Simulator.

    Thank you and best regards,
        Fernando Carreiro (fmi@carreiro.com)

6. [hfsig] Re: Software HF Channel Simulator needed!

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sun, 26 Dec 1999 20:02:23 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-56775-1999.12.26-14.27.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Fernando,

I wish I knew! I have been hunting for one for some time. The best I know of
is a simple one for LINUX by Tom Sailer (is he HB9CNX?). Johan KC7WW, a
frequenter of this list, makes DSP based simulator commercially, but that is
all I know.

I would LOVE someone to implement the CCIR-820 recommendations in a Windows
program, and as you obviously realise, it need not work in real time for
many applications.

Can anyone out there help us?

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] SW Ohio Digital Symposium

From: Hank Greeb <hgreeb@one.net>
Date: Wed, 29 Dec 1999 17:05:16 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-57160-1999.12.29-16.23.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

We're putting the final touches on the SW Ohio Digital Symposium, which
will be held on January 15, 2000 in Middletown, Ohio.

I've so far struck out on a presenter to describe the use of PSK31 and
derivatives. Is anyone on this mailing list within driving distance of
Middletown, Ohio who would like to share knowledge on the subject?

Thanks in advance.

Hank Greeb, N8XX

for more info on the SWOH Digital Symposium, please see the web page
http://w3.one.net/~rkuns/swohdigi.html

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Digital Mode Beginners

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 30 Dec 1999 07:05:43 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <mt63@onelist.com>
Message-ID: <LYR4070-57234-1999.12.30-01.30.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Folks -

I have just updated the "Floppy Disc Web Site" to keep up with the ever
changing internet links.

For those that don't know about it, this idea enables YOU who are already on
digital modes, to give a floppy disc to each of your friends who isn't, and
it will give them all they need to know about everything they could run
using their PC with sound card - from Spectrograms to SSTV and Morse to
MT63. They don't even need internet access to learn about it or request the
free software.

All you do is download the file from
http://www.qsl.net/zl1bpu/FUZZY/software/EUREKA.zip, and unzip it onto a
floppy. It's easy from there. When your friends who don't have internet
access come to you for more information, or to download the software, just
plug the disc back in and follow the links!

You can also check out the Sound Card Digital Modes information (identical
to the floppy disc except it has annoying advertising banners) at
http://members.xoom.com/ZL1BPU/ZL1BPU/EUREKA/home.html

73,

Murray ZL1BPU
http://www.qsl.net/zl1bpu

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Ionospheric Simulator

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 30 Dec 1999 07:15:13 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>

Message-ID: <LYR4070-57235-1999.12.30-01.39.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anybody out there have any Ionospheric Channel Simulation software,
suitable for a Win 95 PC and sound card? Is anybody working on anything like
that?

I need a simulator to allow me to compare different implementations of
digital mode software, and to compare modes.

Ideally a real time system would be good, but I can live with a system that
works with WAV files and post-processes.

Preferably the software should be a full Watterson model CCIR-820 simulator,
but I'll take whatever I can get.

Can anybody help? The target system is a Win95 Pentium II 233 MHz with 32 MB
memory and an AWE64 sound card. No, I don't have LINUX!

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

January 2000

Original source file: hfsig.0001
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0001

1. [hfsig] Hellschreiber Activity Day

From: "Murray Greenman" <murrayg@indcom.co.nz>
Date: Tue, 18 Jan 2000 10:06:03 GMT
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "MT63 Reflector" <MT63@onelist.com>
Message-ID: <LYR4070-61032-2000.01.17-15.19.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Welcome to HAD2000, the FIRST ANNUAL HELLSCHREIBER ACTIVITY DAY.

All bands, all Hell modes, everyone welcome, including SWLs, portable
stations and users of historical equipment! This is to celebrate the 98th
birthday of Dr. Rudolf Hell, inventor of the Hellschreiber

I have attached a text file OFFICIAL INVITATION with all the details, the
scoring system, and where to send your results. A brief summary is as
follows:

                Date: 29 January 2000, 0000 UTC to 2400 UTC
                Results to as149@detroit.freenet.org by Feb 1st.

The aim is to foster the use of Hellschreiber as a viable modern amateur DX
mode on all bands.

           * No prizes!
           * SWLs welcome!
           * No certificates!
           * No contests or rules!
           * No sending away QSLs or logs!
           * Just exchange honest reports, locator and name

Tell your friends! SEE you there! Raise Hell!

Murray ZL1BPU and Nino IZ8BLY
HAD2000 sponsors
as149@detroit.freenet.org

(See attached file: HAD.txt)
[Attachment: HAD.txt; application/octet-stream; 2,924 bytes]

2. [hfsig] Re: Hellschreiber Activity Day

From: "MAJ Tomlinson" <MAJ_Tomlinson@hotmail.com>
Date: Sat, 22 Jan 2000 15:19:09 -1000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62091-2000.01.22-19.16.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Please take me off you mail list.

Thank you

----- Original Message -----
From: "Murray Greenman" <murrayg@indcom.co.nz>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "MT63 Reflector" <MT63@onelist.com>
Sent: Tuesday, January 18, 2000 12:06 AM
Subject: [hfsig] Hellschreiber Activity Day

>
> Welcome to HAD2000, the FIRST ANNUAL HELLSCHREIBER ACTIVITY DAY.
>
> All bands, all Hell modes, everyone welcome, including SWLs, portable
> stations and users of historical equipment! This is to celebrate the 98th
> birthday of Dr. Rudolf Hell, inventor of the Hellschreiber
>
> I have attached a text file OFFICIAL INVITATION with all the details, the
> scoring system, and where to send your results. A brief summary is as
> follows:
>
>   Date: 29 January 2000, 0000 UTC to 2400 UTC
>   Results to as149@detroit.freenet.org by Feb 1st.
>

> The aim is to foster the use of Hellschreiber as a viable modern amateur
DX
> mode on all bands.
>
>   * No prizes!
>   * SWLs welcome!
>   * No certificates!
>   * No contests or rules!
>   * No sending away QSLs or logs!
>   * Just exchange honest reports, locator and name
>
> Tell your friends! SEE you there! Raise Hell!
>
> Murray ZL1BPU and Nino IZ8BLY
> HAD2000 sponsors
> as149@detroit.freenet.org
>
> (See attached file: HAD.txt)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: Hellschreiber Activity Day

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Mon, 24 Jan 2000 00:25:34 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62175-2000.01.23-05.37.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear MAJ,

You're not on any mailing list of mine.

The message you are responding to was sent to the TAPR HFSIG list.

I presumed as one with a Special Interest in HF that advance information
about Hellschreiber activity would definitely have been of Significant
Interest to you.

If that's not the case, maybe you might consider withdrawing from the HFSIG.

73,

Murray ZL1BPU
HAD 2000 sponsor, Member HFSIG.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: Hellschreiber Activity Day

From: "MAJ Tomlinson" <MAJ_Tomlinson@hotmail.com>
Date: Sun, 23 Jan 2000 07:41:05 -1000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62215-2000.01.23-11.37.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Please take me off the mail list.

Thank you.
----- Original Message -----
From: "Coombe Down" <coombedn@ihug.co.nz>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Sunday, January 23, 2000 1:25 AM
Subject: [hfsig] Re: Hellschreiber Activity Day

> Dear MAJ,
>
> You're not on any mailing list of mine.
>
> The message you are responding to was sent to the TAPR HFSIG list.
>
> I presumed as one with a Special Interest in HF that advance information
> about Hellschreiber activity would definitely have been of Significant
> Interest to you.
>

> If that's not the case, maybe you might consider withdrawing from the
HFSIG.
>
> 73,
>
> Murray ZL1BPU
> HAD 2000 sponsor, Member HFSIG.
>
>
> ---
> You are currently subscribed to hfsig as: MAJ_Tomlinson@hotmail.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] MAJ

From: dona@tridelta.com (Don Adams)
Date: Mon, 24 Jan 2000 08:35:05 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62379-2000.01.24-07.24.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From the two reponses, I suspect there may be a language
problem, since every posting seems to clearly specify how
to unsubscribe. Can anyone else besides the originator
delete someone from the list? For that matter I've never
unsubscribed from TAPR.........

over.. Don wa8qzz

At 07:41 AM 1/23/00 -1000, MAJ Tomlinson wrote:
>Please take me off the mail list.
>
>Thank you.
>----- Original Message -----
>From: "Coombe Down" <coombedn@ihug.co.nz>
>To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
>Sent: Sunday, January 23, 2000 1:25 AM
>Subject: [hfsig] Re: Hellschreiber Activity Day
>
>
>> Dear MAJ,
>>
>> You're not on any mailing list of mine.
>>
>> The message you are responding to was sent to the TAPR HFSIG list.
>>
>> I presumed as one with a Special Interest in HF that advance information
>> about Hellschreiber activity would definitely have been of Significant
>> Interest to you.
>>
>> If that's not the case, maybe you might consider withdrawing from the
>HFSIG.
>>
>> 73,
>>
>> Murray ZL1BPU
>> HAD 2000 sponsor, Member HFSIG.
>>
>>
>> ---
>> You are currently subscribed to hfsig as: MAJ_Tomlinson@hotmail.com
>> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>>
>>
>
>---
>You are currently subscribed to hfsig as: DONA@TRIDELTA.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] RE: MAJ & leaving the list...

From: Mastenbrook Gary-G13216 <Gary.Mastenbrook@motorola.com>
Date: Mon, 24 Jan 2000 07:56:10 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62382-2000.01.24-07.53.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don- I believe the automated list tool checks the originator's email against the subscriber list and rejects those requests that don't match. So if MAJ_Tomlinson wants to unsubscribe, a email from their hotmail account would need to be sent as shown below... (MAJ_Tomlinson--are you listening??)

>> You are currently subscribed to hfsig as: MAJ_Tomlinson@hotmail.com
>> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

That's all it takes!

...end fun with mail lists...

73's

Gary N8DMT

(P.S. I didn't mind the Hellschreiber announcement at all on this list. It's been pretty quite around here lately. :o)

Gary Mastenbrook, Technology Manager, Motorola Telematics
50 E. Commerce Drive, Schaumburg, IL 60173
Email: g13216@email.mot.com
Work Home Page: http://www.mot.com/telematics
Personal Home Page: http://www.qsl.net/n8dmt

-----Original Message-----
From: dona@tridelta.com [mailto:dona@tridelta.com]
Sent: Monday, January 24, 2000 7:35 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] MAJ

>From the two reponses, I suspect there may be a language problem, since every posting seems to clearly specify how to unsubscribe. Can anyone else besides the originator delete someone from the list? For that matter I've never unsubscribed from TAPR.....

over.. Don wa8qzz

At 07:41 AM 1/23/00 -1000, MAJ Tomlinson wrote:
>Please take me off the mail list.
>
>Thank you.
>----- Original Message -----
>From: "Coombe Down" <coombedn@ihug.co.nz>
>To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
>Sent: Sunday, January 23, 2000 1:25 AM
>Subject: [hfsig] Re: Hellschreiber Activity Day
>
>
>> Dear MAJ,
>>
>> You're not on any mailing list of mine.
>>
>> The message you are responding to was sent to the TAPR HFSIG list.
>>
>> I presumed as one with a Special Interest in HF that advance information
>> about Hellschreiber activity would definitely have been of Significant
>> Interest to you.
>>
>> If that's not the case, maybe you might consider withdrawing from the
>HFSIG.
>>
>> 73,
>>
>> Murray ZL1BPU
>> HAD 2000 sponsor, Member HFSIG.

>>
>>
>> ---
>> You are currently subscribed to hfsig as: MAJ_Tomlinson@hotmail.com
>> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>>
>>
>
>---
>You are currently subscribed to hfsig as: DONA@TRIDELTA.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Speaking of Quiet...

From: dona@tridelta.com (Don Adams)
Date: Mon, 24 Jan 2000 10:19:52 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62391-2000.01.24-09.09.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>Gary N8DMT
>
>(P.S. I didn't mind the Hellschreiber announcement at all on this list.
>It's been pretty quite around here lately. :o)
>
I agree it has been quiet, I remember (and have saved) all the discussion on
HF modems a few years back......real interesting stuff. Many years ago I
designed a 201 type modem (2400 bps 4 phase changes) seems incredibly
slow now. i think the magic part of the new high speed modems must be the
adaptive line equalization. I remember the conditioning that you could buy
from the phone company.....
Actually I do have have a question about modems, channel capacity etc. I finally
got a new "digital" qualcomm phone because the rate plan was so cheap.
The best I can tell is that these new modems spread over 1.25 Mhz and the
bit rate of the voice channel is low about 13.5Kbps or slower. They don't
sound as good as the analog phones and they don't seem to have the range
that the analog phones had, but they do use a whole lot less power. And
aledgedly they have more system capacity. I don't completely see the
tradeoffs. Outside of going digital for the ease of message handling. Is the
increased capacity due to the lower bit rate ie you could roughly double
(or more) the number of channels due to the low bit rate?

I looked at Phil Karn's web page at qualcomm, but I didn't see any links
to any technical papers about how this is better (or worst) than analog.
I did see a lot marketing hipe. I have talked to a ham friend of mine who
does commercial radio (ie police fire radio systems etc) and he says
that for the same power/frequencies, the digital radios have half the range
of the analog radios.

On the other hand, it may be interesting to go digital on 2m/440 repeater
systems and see if you could get a few channels on the same system.....

Also is there anything new ideas for HF besides pk31 and Hellschreiber
(which is really old and simple...which may be good)

over.....Don wa8qzz

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Speaking of Quiet...

From: Johan Forrer <forrerj@peak.org>
Date: Mon, 24 Jan 2000 08:47:16 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62399-2000.01.24-10.44.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

...... some stuff deleted .....

> Also is there anything new ideas for HF besides pk31 and Hellschreiber
> (which is really old and simple...which may be good)

>
>
> over.....Don wa8qzz
>

Have you looked at MT63 yet? G4GUO's digital voice stuff
is interesting too... My web page has details (www.peak.org/~forrerj).

It has been quiet for a while, but personally I think that most
of the good stuff have been discussed. Things also
has changed a lot ... we moved along from proprietory boxes,
to DSP EVM's, and nowdays pretty good stuff with PCs and sound
cards are being done.

What needs to be done are some follow-up work on people
putting all the good stuff into technical writing. I have
been pre-occupied with too many other things to do much
along those lines, but would like to encourage others to do so.
We need good meaty technical articles. How about it folks?

73,

Johan, KC7WW

>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Speaking of Quiet...

From: "Murray Greenman" <murrayg@indcom.co.nz>
Date: Tue, 25 Jan 2000 09:21:15 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62424-2000.01.24-14.31.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don,

Just picking up on one point in your email -

>Also is there anything new ideas for HF besides pk31 and Hellschreiber
>(which is really old and simple...which may be good)

You are right about Hell being old and simple, and we've also significantly
improved the performance using DSP techniques. It's really noise proof and
generally QRM proof, but one of the most significant things compared with
other narrow-band modes is that it is insensitive to mis-tuning, doppler and
drift. This makes it a good candidate for QRP, contests, trans-polar and
satellite paths.

New idea? Try Duplo-Hell, which uses two tones (but is not FSK) to double
the bit-time for the same throughput. This has the effect of halving the
noise and especially halving the effect of multi-path. This makes it an
excellent choice for bands well below the MUF, such as 80m at night. 3000 km
QSOs are routine on 80m!

New idea? Try PSK-Hell, which is darn near as sensitive as PSK31, but does
not have the tendency to lose lock on noise (since it has no lock to lose!)
It is also much less affected by polar flutter since it optically averages
it, and has a higher baud rate (105 baud) which reduces the differential
noise phase angle per bit by a factor of four. PSK-Hell is good for weak
propagation near the MUF, and on VHF.

New idea? We now have LINUX and Win 95/98/NT software for MT63. 64 2PSK
tones, 1 kHz wide exactly (i.e. 15.625 Hz apart), 10 baud symbol rate, 7 bit
ASCII to 64 bit Walsh FEC encoded, interleaved over 3.2 or 6.4 seconds. MT63
is the Mack-truck of digital modes - 30W will work the world under the worst
conditions - it copes with flutter, selective fading, SSB QRM and lightning
noise - you can lose 1/4 of the signal all the time, or all the signal 1/4
of the time, and retain perfect copy.

New idea? How about Kiss AX25 compatible operation in less bandwidth that HF
packet, with FEC and faster throughput? Try Q15X25, a robust 15 tone 4PSK

system with FEC and an ARQ protocol compatible with conventional packet?
Check out Q15X25 - available for Motorola EVM and Linux PC.

Worth checking out these new ideas!

73,

Murray ZL1BPU
http://www.qsl.net/zl1bpu

(As you may have gathered, I'm rather biassed to Hell, but that's better
than being damned to Hell!)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] RE: MAJ & leaving the list...

From: "MAJ Tomlinson" <MAJ_Tomlinson@hotmail.com>
Date: Wed, 26 Jan 2000 18:19:38 -1000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62812-2000.01.26-22.16.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

thank you.
----- Original Message -----
From: "Mastenbrook Gary-G13216" <Gary.Mastenbrook@motorola.com>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Monday, January 24, 2000 3:56 AM
Subject: [hfsig] RE: MAJ & leaving the list...

> Don- I believe the automated list tool checks the originator's email
> against the subscriber list and rejects those requests that don't match.
So
> if MAJ_Tomlinson wants to unsubscribe, a email from their hotmail account
> would need to be sent as shown below... (MAJ_Tomlinson--are you
> listening??)
>
> >> You are currently subscribed to hfsig as: MAJ_Tomlinson@hotmail.com
> >> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> That's all it takes!
>
> ...end fun with mail lists...
>
> 73's
>
> Gary N8DMT
>
> (P.S. I didn't mind the Hellschreiber announcement at all on this list.
> It's been pretty quite around here lately. :o)
>
> Gary Mastenbrook, Technology Manager, Motorola Telematics
> 50 E. Commerce Drive, Schaumburg, IL 60173
> Email: g13216@email.mot.com
> Work Home Page: http://www.mot.com/telematics
> Personal Home Page: http://www.qsl.net/n8dmt
>
>
> -----Original Message-----
> From: dona@tridelta.com [mailto:dona@tridelta.com]
> Sent: Monday, January 24, 2000 7:35 AM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] MAJ
>
>
> From the two reponses, I suspect there may be a language
> problem, since every posting seems to clearly specify how
> to unsubscribe. Can anyone else besides the originator
> delete someone from the list? For that matter I've never
> unsubscribed from TAPR.........
>
> over.. Don wa8qzz
>
> At 07:41 AM 1/23/00 -1000, MAJ Tomlinson wrote:
> >Please take me off the mail list.
> >

> >Thank you.
> >----- Original Message -----
> >From: "Coombe Down" <coombedn@ihug.co.nz>
> >To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
> >Sent: Sunday, January 23, 2000 1:25 AM
> >Subject: [hfsig] Re: Hellschreiber Activity Day
> >
> >
> >> Dear MAJ,
> >>
> >> You're not on any mailing list of mine.
> >>
> >> The message you are responding to was sent to the TAPR HFSIG list.
> >>
> >> I presumed as one with a Special Interest in HF that advance
information
> >> about Hellschreiber activity would definitely have been of Significant
> >> Interest to you.
> >>
> >> If that's not the case, maybe you might consider withdrawing from the
> >HFSIG.
> >>
> >> 73,
> >>
> >> Murray ZL1BPU
> >> HAD 2000 sponsor, Member HFSIG.
> >>
> >>
> >> ---
> >> You are currently subscribed to hfsig as: MAJ_Tomlinson@hotmail.com
> >> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> >>
> >>
> >
> >---
> >You are currently subscribed to hfsig as: DONA@TRIDELTA.COM
> >To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
> ---
> You are currently subscribed to hfsig as: MAJ_Tomlinson@hotmail.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: Hellschreiber Activity Day

From: mwheatle@trsystems.com
Date: Thu, 27 Jan 2000 09:28:41 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62853-2000.01.27-08.26.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----Original Message-----
From: MAJ Tomlinson [mailto:MAJ_Tomlinson@hotmail.com]
Sent: Saturday, January 22, 2000 8:19 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: Hellschreiber Activity Day

Please take me off you mail list.

Thank you

----- Original Message -----
From: "Murray Greenman" <murrayg@indcom.co.nz>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "MT63 Reflector" <MT63@onelist.com>
Sent: Tuesday, January 18, 2000 12:06 AM
Subject: [hfsig] Hellschreiber Activity Day

>
> Welcome to HAD2000, the FIRST ANNUAL HELLSCHREIBER ACTIVITY DAY.
>
> All bands, all Hell modes, everyone welcome, including SWLs, portable

> stations and users of historical equipment! This is to celebrate the 98th
> birthday of Dr. Rudolf Hell, inventor of the Hellschreiber
>
> I have attached a text file OFFICIAL INVITATION with all the details, the
> scoring system, and where to send your results. A brief summary is as
> follows:
>
>   Date: 29 January 2000, 0000 UTC to 2400 UTC
>   Results to as149@detroit.freenet.org by Feb 1st.
>
> The aim is to foster the use of Hellschreiber as a viable modern amateur
DX
> mode on all bands.
>
>   * No prizes!
>   * SWLs welcome!
>   * No certificates!
>   * No contests or rules!
>   * No sending away QSLs or logs!
>   * Just exchange honest reports, locator and name
>
> Tell your friends! SEE you there! Raise Hell!
>
> Murray ZL1BPU and Nino IZ8BLY
> HAD2000 sponsors
> as149@detroit.freenet.org
>
> (See attached file: HAD.txt)

You are currently subscribed to hfsig as: MWHEATLE@TRSYSTEMS.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Re: Speaking of Quiet...

From: <stephane@rochebrune.org>
Date: Sun, 30 Jan 2000 11:56:33 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63411-2000.01.30-04.59.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don,

>I did see a lot marketing hipe. I have talked to a ham friend of mine who
>does commercial radio (ie police fire radio systems etc) and he says
>that for the same power/frequencies, the digital radios have half the
range
>of the analog radios.

I wonder what digital radios your friend have.

Without repeater, when good design's choices are made, digital radios are
slightly better than analog one and radio range is (at least) equal...

With repeater, the digital radio is far superior, because you can use FEC to
recreate good output frames from bad behaved input frames...

73 de F1USA, Stephane (Oleron Island - France)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: Speaking of Quiet...

From: dona@tridelta.com (Don Adams)
Date: Mon, 31 Jan 2000 09:14:58 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63613-2000.01.31-08.04.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>I wonder what digital radios your friend have.
>
>Without repeater, when good design's choices are made, digital radios are

>slightly better than analog one and radio range is (at least) equal...
>
>With repeater, the digital radio is far superior, because you can use FEC to
>recreate good output frames from bad behaved input frames...
>
>73 de F1USA, Stephane (Oleron Island - France)

Let me find out....

As I vaguely remember it some something like about 35 miles
range for the digital mode and around 70miles for the analog mode.
I think they were about 100watt mobiles. And in was for some division
of the Federal gouvernment so they probably have a larger area than
most.

don...wa8qzz

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

February 2000

Original source file: hfsig.0002
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0002

1. [hfsig] MT63

From: Eduardo Jacob <jtpjatae@bi.ehu.es>
Date: Tue, 01 Feb 2000 11:02:23 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63869-2000.02.01-04.00.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If some of you follow several other lists about "new" or "renewed" modes ,as PSK31, MT63 or Hellscreiber you will have seen that some intentional (and also some unintentional) QRM has began appearing, as Pactor over MT63, MT63 over MT63, MT63 over PSK31 or Hell... In a word, the anticipated problems related to broad modes have begun appearing.

I forward a message from the PSK31 list that Peter G3PLX sent a couple of days ago. I hope this will be the spark that could fire a fruitful discussion in the list.

I think that it's time to begin the debate that has been proposed at least by Johan several times. I think we should at least clearly identify:

- the priorities that should guide new broad usage developments, I mean new modes intended for massive public consumption.

- the legitime need of experimentation and development of new modes (even if they aren't designed to be widely used) and ressources (mostly bands segments) for it.

- ...

Eduardo/EA2BAJ

>>>>>>>>>>>>>>>>
>From Peter Martinez G3PLX

I sympathise with Peter Klein about MT63 operation. As some will
already know, I have strong opinions on this subject, believing that
MT63 is most definitely NOT within the spirit of amateur radio. I
base this opinion on the principle that it's possible to have a
stable equilibrium between competing types of transmission in an
amateur radio environment ONLY if they cause equal levels of
interference to each other when they overlap. This may seem a strange
thing to say, but it's the essential factor in making sure that
nobody on one mode operates on top of (or too close to) someone else
on another mode, so this really is the guiding principle behind
conflict-free diversity in amateur radio activity. It's this
principle which lies behind the idea of having modes of similar
bandwidth sharing sub-bands, or, to put it another way, the principle
of having modes of widely different bandwidth separated in the bandplans.

MT63 violates this principle. By it's very nature it is designed to
survive interference, and so it inevitably causes far more
interference than it suffers when it is "sharing" the same bit of
band. I put forward the suggestion that this makes the use of MT63
"unfair". Even if we simply note that it's bandwidth is wide and
therefore we should operate MT63 in the part of the band used by
similar width signals (packet, SSB, etc.), this still gives the
mutual-interference inequality and is still unfair.

Note that I have no problem with proposed spread-spectrum modes,
where a section of band is dedicated to wide-band low-rate digital
operation and this type of operation can survive it's own mutual QRM,
but MT63 doesn't come into this category. MT63 cannot survive QRM
from it's own kind and so it has none of the benefits of
spread-spectrum operation. If we allocated a dedicated bit of band to
MT63 so that it didn't cause the rest of us any QRM, then it would
not suffer from QRM from us either and it then becomes completely
pointless. It's therefore only "doing it's thing" when it's competing
unfairly with other modes, and as such is an invention of the devil.

73
Peter

>>>>>>>>>>>>>>>>

Eduardo Jacob - Area de Ingenieria Telematica
Departamento de Electronica y Telecomunicaciones

ETSII y de IT   Tel: +34 94 601 4214
UPV / EHU   Fax: +34 94 601 4259
Alda Urquijo s/n   E-mail: jtpjatae@bi.ehu.es
E-48013 - Bilbao (Spain)
PGP Key available: Send email w/subject: PGPKEY
fingerprint   : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: Speaking of Quiet...

From: <stephane@rochebrune.org>
Date: Tue, 1 Feb 2000 10:37:53 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63878-2000.02.01-06.15.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don,

>Let me find out....
>
>As I vaguely remember it some something like about 35 miles
>range for the digital mode and around 70miles for the analog mode.
>I think they were about 100watt mobiles. And in was for some division
>of the Federal gouvernment so they probably have a larger area than
>most.

70 miles !!! The repeater was located on a very high hill, I guess.
100 watts mobiles, very impressive power.

Without knowing the digital technology used, we can't find why the range was
cut by half.

FYI, with our own digital networks (with analog mode for interoperability
reasons), when analog signal becomes bad, with a lot of blank noise,
switching to digital mode help us to recover a good speech understanding...

73 de F1USA, Stephane (Oleron Island - France)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: MT63

From: Tomi Manninen <tpm@prkele.tky.hut.fi>
Date: Tue, 1 Feb 2000 17:03:58 +0200 (EET)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63902-2000.02.01-09.02.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 1 Feb 2000, Eduardo Jacob wrote:

>   If some of you follow several other lists about "new" or
> "renewed" modes ,as PSK31, MT63 or Hellscreiber you will have seen
> that some intentional (and also some unintentional) QRM has began
> appearing, as Pactor over MT63, MT63 over MT63, MT63 over PSK31 or
> Hell... In a word, the anticipated problems related to broad modes
> have begun appearing.
>
>   I forward a message from the PSK31 list that Peter G3PLX sent a
> couple of days ago. I hope this will be the spark that could fire a
> fruitful discussion in the list.
>
>   I think that it's time to begin the debate that has been
> proposed at least by Johan several times. I think we should at least
> clearly identify:
>
>   - the priorities that should guide new broad usage developments,
> I mean new modes intended for massive public consumption.
>
>   - the legitime need of experimentation and development of new
> modes (even if they aren't designed to be widely used) and ressources
> (mostly bands segments) for it.

I may be completely mistaken here but my understanding has always been
that what ham radio is all about IS experimentation and development of new

modes (be it of modulation, propagation or what ever) and studying the
behaviour of "old" ones!

It's fortunate that Marconi didn't have anyone bitching how unfair his
experimentation with that invention of the "devil" is to the rest of the
people. Or, what is more probable, he didn't listen to it...

>   Eduardo/EA2BAJ
>
> >>>>>>>>>>>>>>>>>
> >From Peter Martinez G3PLX

> Note that I have no problem with proposed spread-spectrum modes,
> where a section of band is dedicated to wide-band low-rate digital
> operation and this type of operation can survive it's own mutual QRM,
> but MT63 doesn't come into this category. MT63 cannot survive QRM
> from it's own kind and so it has none of the benefits of
> spread-spectrum operation. If we allocated a dedicated bit of band to
> MT63 so that it didn't cause the rest of us any QRM, then it would
> not suffer from QRM from us either and it then becomes completely
> pointless. It's therefore only "doing it's thing" when it's competing
> unfairly with other modes, and as such is an invention of the devil.

Pointless...? Isn't Peter forgetting other kinds of QRM (non-amateur,
non-telecommunications), QRN, multipath, selective fading, power/bandwidth
efficiency etc. etc. here?

The devil...? Give me a break...

Sure thing this has to be coordinated. Sure thing those causing deliberate
QRM need to stop right now! Having watched the MT63 reflector, it seems
that most of the emails are about finding a frequency everyone can use and
that doesn't cause interference to other modes.

--
Tomi Manninen   Internet: oh2bns@sral.fi
OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: MT63

From: Barry LaZar <barry@lissa.ncsc.mil>
Date: Tue, 01 Feb 2000 15:48:04 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63966-2000.02.01-14.44.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Guys,
    I have been SWLing on 20 meters reading PSK31 signals to see how well it
plays. A couple of things I have noticed. First, PSK31 stations have been
hitting on or very near WinLink frequencies. WinLink stations are following a
published schedule of frequencies; therefore, I don't believe the interference
is deliberate. Second, I find it fascinating that PSK31 operators are going
into the very busy wide digital mode part of the band. Had I been making the
choice of PSK31 frequencies to use, I would have chosen frequencies that were
up in or near the RTTY part of the band. It is my understanding that PSK31 was
designed as a better keyboard to keyboard mode than RTTY. If this is true
wouldn't it be better to avoid known traffic frequencies and operate where the
type of operation PSK31 was designed to be?

Vy 73,
Barry
K3NDM

Tomi Manninen wrote:

> On Tue, 1 Feb 2000, Eduardo Jacob wrote:
>
> >   If some of you follow several other lists about "new" or
> > "renewed" modes ,as PSK31, MT63 or Hellscreiber you will have seen
> > that some intentional (and also some unintentional) QRM has began
> > appearing, as Pactor over MT63, MT63 over MT63, MT63 over PSK31 or
> > Hell... In a word, the anticipated problems related to broad modes
> > have begun appearing.
> >

> >   I forward a message from the PSK31 list that Peter G3PLX sent a
> > couple of days ago. I hope this will be the spark that could fire a
> > fruitful discussion in the list.
> >
> >   I think that it's time to begin the debate that has been
> > proposed at least by Johan several times. I think we should at least
> > clearly identify:
> >
> >   - the priorities that should guide new broad usage developments,
> > I mean new modes intended for massive public consumption.
> >
> >   - the legitime need of experimentation and development of new
> > modes (even if they aren't designed to be widely used) and ressources
> > (mostly bands segments) for it.
>
> I may be completely mistaken here but my understanding has always been
> that what ham radio is all about IS experimentation and development of new
> modes (be it of modulation, propagation or what ever) and studying the
> behaviour of "old" ones!
>
> It's fortunate that Marconi didn't have anyone bitching how unfair his
> experimentation with that invention of the "devil" is to the rest of the
> people. Or, what is more probable, he didn't listen to it...
>
> >   Eduardo/EA2BAJ
> >
> > >>>>>>>>>>>>>>>>>
> > >From Peter Martinez G3PLX
>
> > Note that I have no problem with proposed spread-spectrum modes,
> > where a section of band is dedicated to wide-band low-rate digital
> > operation and this type of operation can survive it's own mutual QRM,
> > but MT63 doesn't come into this category. MT63 cannot survive QRM
> > from it's own kind and so it has none of the benefits of
> > spread-spectrum operation. If we allocated a dedicated bit of band to
> > MT63 so that it didn't cause the rest of us any QRM, then it would
> > not suffer from QRM from us either and it then becomes completely
> > pointless. It's therefore only "doing it's thing" when it's competing
> > unfairly with other modes, and as such is an invention of the devil.
>
> Pointless...? Isn't Peter forgetting other kinds of QRM (non-amateur,
> non-telecommunications), QRN, multipath, selective fading, power/bandwidth
> efficiency etc. etc. here?
>
> The devil...? Give me a break...
>
> Sure thing this has to be coordinated. Sure thing those causing deliberate
> QRM need to stop right now! Having watched the MT63 reflector, it seems
> that most of the emails are about finding a frequency everyone can use and
> that doesn't cause interference to other modes.
>
> --
> Tomi Manninen   Internet: oh2bns@sral.fi
> OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
> KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org
>
> ---
> You are currently subscribed to hfsig as: barry@lissa.ncsc.mil
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: MT63

From: Hamish Moffatt <hamish@rising.com.au>
Date: Wed, 2 Feb 2000 08:27:27 +1100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63984-2000.02.01-15.25.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, Feb 01, 2000 at 03:48:04PM -0500, Barry LaZar wrote:
> hitting on or very near WinLink frequencies. WinLink stations are following a
> published schedule of frequencies; therefore, I don't believe the interference
> is deliberate.

That doesn't excuse the operators from listening to see if the frequency
is clear before transmitting. Just turn up the AF gain and listen for a

PSK31 signal before connecting -- that's all I ask. Yet it seems to be rare.
There is a station quite close to me who fires up on top of people all
the time. Since he lives close I am pretty sure he can hear everyone
I can, or more.

Hamish VK3SB

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Wide band <-> Narrow band

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Wed, 2 Feb 2000 22:57:25 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64068-2000.02.02-04.04.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Barry,

To reply using your own words (more or less):

First, wideband digital stations have been hitting on or very near PSK31,
Morse and Hellschreiber frequencies. Wideband digital stations are
supposedly following a published schedule of frequencies; even so, if they
call without checking for a clear frequency first, their interference can be
construed to be deliberate. Second, I am deeply concerned that wideband
digital operators are going into the quiet narrow Morse and digital mode
part of the (20m) band. Had I been making the choice of wideband digital
frequencies to use, I would have chosen frequencies that were up above the
RTTY part of the band. Wouldn't it be better to avoid known band segments
set aside by gentlemen's agreements, and operate where the wideband digital
operation is intended to be?

(Aimed at the many Pactor and similar BBS operators who encroach on the area
from 14.050 and 14.070 MHz in particular, but including any and all
operators who do not check for a clear frequency before transmitting)

I share your concern for poor operating and the lack of respect for
gentlemen's agreements (even IARU recommendations), but in fact the boot is
on the other foot in the minds of many narrow band operators.

Nobody, WINLINK station, SSB net, BBS, W1AW or narrow band op, OWNS any part
of the Amateur Bands. ALL operation to published schedules MUST be +/- QRM.
Without exception, period.

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Wide band <-> Narrow band

From: Hamish Moffatt <hamish@rising.com.au>
Date: Wed, 2 Feb 2000 22:39:20 +1100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64072-2000.02.02-05.36.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, Feb 02, 2000 at 10:57:25PM +1300, Coombe Down wrote:
> First, wideband digital stations have been hitting on or very near PSK31,
> Morse and Hellschreiber frequencies. Wideband digital stations are
> supposedly following a published schedule of frequencies; even so, if they
> call without checking for a clear frequency first, their interference can be
> construed to be deliberate. Second, I am deeply concerned that wideband
> digital operators are going into the quiet narrow Morse and digital mode
> part of the (20m) band. Had I been making the choice of wideband digital

I have often heard PACTOR users on 14.057 USB. That is well beyond
the QRP CW area at 14.060. I already feel guilty about Hell being that
close to QRP CW, but Hell is a lot more compatible with it than TOR.

> Nobody, WINLINK station, SSB net, BBS, W1AW or narrow band op, OWNS any part
> of the Amateur Bands. ALL operation to published schedules MUST be +/- QRM.
> Without exception, period.

Hear hear.

73
Hamish vk3sb
--
Hamish Moffatt Mobile: +61 412 011 176 hamish@rising.com.au
Rising Software Australia Pty. Ltd. http://www.risingsoftware.com/
Phone: +61 3 9894 4788 Fax: +61 3 9894 3362 USA: 1 888 667 7839

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Wide band <-> Narrow band

From: Gary Chatters <gc@Radix.Net>
Date: Wed, 2 Feb 2000 10:54:21 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64102-2000.02.02-09.51.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>First, wideband digital stations have been hitting on or very near PSK31,
>Morse and Hellschreiber frequencies. Wideband digital stations are
>supposedly following a published schedule of frequencies; even so, if they

This discussion of band usage got me interested enough to look up
the band plans on the ARRL web site. They have a "ARRL Band Plan"
which differentiates between "RTTY" and "Packet", but don't mention
bandwidth. They also have a "Considerate Operator's Guide" which
differentiates between "Data" and "Automatic Data Stations" rather
than "RTTY" and "Packet".

Where is the "published schedule of frequencies" for wideband
digital stations published?

What modes are considered wideband?

What is WINLINK?

TNX
Gary

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Wide band <-> Narrow band

From: Barry LaZar <barry@lissa.ncsc.mil>
Date: Wed, 02 Feb 2000 11:20:59 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64108-2000.02.02-10.17.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Murray,
    I don't want to appear to be defending bad operators, but for Win Link stations, they need to be listening where they say they will be or the folks who want to pass traffic will be unable to do so. Having said that, there seems to be a general lack of tolerance over who is going to operate where and general courtesy.
    The digital modes that are becoming popular and new modes that are coming along DO need a place. Maybe it's time to revise some agreements so that there will be a more effective use of those parts of the bands designated for the digital modes. I personally don't care what the agreements are so long as I'm informed; I'm not a digital driver, just a user.
    Ham radio HAS always operated under the assumption that no one owns any frequency, But we have all played by a set of understandings that allowed us to coexist. I don't have all the answers, but as I have said before on this SIG, I would not like to see things turn out as they did when SSB started up on 75 meters. I don't know your age; I'm 60 and can remember the hostilities that occurred for a fair number of years. With the changes in the licensing structure here in the U.S., I would expect that there will be some re-farming of frequencies in the near future. It might be appropriate to do agreement revisions at that time and make room for all of the modes to include the experimental ones.

Vy 73,
Barry
K3NDM

Coombe Down wrote:

> Barry,
>
> To reply using your own words (more or less):
>
> First, wideband digital stations have been hitting on or very near PSK31,
> Morse and Hellschreiber frequencies. Wideband digital stations are
> supposedly following a published schedule of frequencies; even so, if they
> call without checking for a clear frequency first, their interference can be
> construed to be deliberate. Second, I am deeply concerned that wideband
> digital operators are going into the quiet narrow Morse and digital mode
> part of the (20m) band. Had I been making the choice of wideband digital
> frequencies to use, I would have chosen frequencies that were up above the
> RTTY part of the band. Wouldn't it be better to avoid known band segments
> set aside by gentlemen's agreements, and operate where the wideband digital
> operation is intended to be?
>
> (Aimed at the many Pactor and similar BBS operators who encroach on the area
> from 14.050 and 14.070 MHz in particular, but including any and all
> operators who do not check for a clear frequency before transmitting)
>
> I share your concern for poor operating and the lack of respect for
> gentlemen's agreements (even IARU recommendations), but in fact the boot is
> on the other foot in the minds of many narrow band operators.
>
> Nobody, WINLINK station, SSB net, BBS, W1AW or narrow band op, OWNS any part
> of the Amateur Bands. ALL operation to published schedules MUST be +/- QRM.
> Without exception, period.
>
> Murray ZL1BPU
>
> ---
> You are currently subscribed to hfsig as: barry@lissa.ncsc.mil
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: Wide band <-> Narrow band

From: "Murray Greenman" <murrayg@indcom.co.nz>
Date: Thu, 3 Feb 2000 07:54:06 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64128-2000.02.02-12.47.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gary,

US Amateurs (rightly or wrongly) have the attitude that operating rules
begin and end with the ARRL and the FCC. I suggest you look at the IARU
Bandplan Recommendations. Contact your local IARU representative. Bands like
20m and 15m are so international in their coverage that all operators have a
duty to consider the activities and expectations of other countries as well.

In IARU Region I and Region III, the area 14.000 to 14.070 is dedicated to
CW operation. As you will have discovered, the ARRL recommendations and FCC
rules are at variance with this.

I suspect that before too many years are out, the IARU will change their
present guidelines from CW, Digital and Other sub-bands to < 500 Hz,
500-1500 Hz and > 1500 Hz bandwidth sub-bands, but that's a different
debate.

In my opinion, (or at with reference to my previous email to the HFSIG)
wideband digital is anything that exceeds about 350 Hz bandwidth, (i.e.
won't fit through a CW filter), but the definition is open to debate.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: Wide band <-> Narrow band

From: Hamish Moffatt <hamish@rising.com.au>
Date: Thu, 3 Feb 2000 08:11:44 +1100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64143-2000.02.02-15.09.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, Feb 02, 2000 at 11:20:59AM -0500, Barry LaZar wrote:
> I don't want to appear to be defending bad operators, but for Win Link
> stations, they need to be listening where they say they will be or the folks who
> want to pass traffic will be unable to do so. Having said that, there seems to

Sure. Unfortunately I think many of the users of these WinLink stations
just call without listening first. It doesn't take long to turn up the
audio and listen for modulation, even if you can't decode it.

Hamish
--
Hamish Moffatt Mobile: +61 412 011 176 hamish@rising.com.au
Rising Software Australia Pty. Ltd. http://www.risingsoftware.com/
Phone: +61 3 9894 4788 Fax: +61 3 9894 3362 USA: 1 888 667 7839

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Re: Wide band <-> Narrow band

From: "Lyle Johnson" <wa7gxd@email.msn.com>
Date: Thu, 3 Feb 2000 00:20:32 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64169-2000.02.02-18.15.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ah, yes bandwidth.

In 1977 the FCC proposed to change the rules to be banwidth based, but the
ARRL (and the mail from members) choked on this and got the FCC to change
their mind.

Too bad.

We hashed this over for years on the Digital Committee back in the 80's and
never could come to a result that didn't get some vocal group angry at the
proposals. We were trying to accomodate "packet and other modes" then.

It will be interesting to see what eventually gets worked out...

Lyle

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: Wide band <-> Narrow band

From: Hank Greeb <hgreeb@one.net>
Date: Thu, 3 Feb 2000 01:19:42 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64207-2000.02.03-00.17.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It has been my observation that many (most) hams in the United States of America have
little to no regard for the "gentlemen's agreements" which exist in other parts of the
world. This is unfortunate, because it gives us all a black eye, even those who read
the international agreements and try to live by them.

73 de n8xx Hg

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: MT63

From: Alberto di Bene <dibene@usa.net>
Date: Thu, 03 Feb 2000 11:30:17 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64223-2000.02.03-04.27.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > WinLink stations are following a
> > published schedule of frequencies;

Publishing a schedule of frequencies doesn't reserve those
frequencies for your use. Ham bands are ruled by the
'first come, first served' type of agreement (with respect
of the band plan, of course).

Alberto I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: Wide band <-> Narrow band

From: Barry LaZar <barry@lissa.ncsc.mil>
Date: Thu, 03 Feb 2000 08:27:04 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64233-2000.02.03-07.23.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Garry,
    Let me try to explain WINLINK operation. There are numerous fixed stations around the world that are mail store and forward stations. Many if not all have a connection to the internet. The primary mode of operation is PACTOR or PACTOR II. Each of the stations has a frequency scan list that it visits on a 2-4 second basis. There are few scan frequencies, typically, on all of the mid-HF bands, 40, 30, and 20 meters. These stations service mobile stations; RV's, boats, and hams on the go.
    The way it works is that you estimate on what band you think propagation will support a connection to the station you plan to use. Then you choose a frequency call command your station to do a connect to the WINLINK station. After you've made a connection, you just follow the directions transmitted to you.
    What gets missed here by some of the correspondents is the fact the initiator of a connect may not hear there is another station on frequency, not unusual on HF. Secondly, there must be a set of frequencies that are known beforhand or the system can not work.
    There are a number of pages on the internet that has frequencies and operating information on WINLINK. You might search for N4CJX and start there.
    I don't want to get into what is a wide or narrow digital mode other than if it's as wide as a voice grade channel, it probably is a wideband digital mode.

Vy 73,
Barry
K3NDM

Gary Chatters wrote:

> >
> >First, wideband digital stations have been hitting on or very near PSK31,
> >Morse and Hellschreiber frequencies. Wideband digital stations are
> >supposedly following a published schedule of frequencies; even so, if they
>
> This discussion of band usage got me interested enough to look up
> the band plans on the ARRL web site. They have a "ARRL Band Plan"
> which differentiates between "RTTY" and "Packet", but don't mention
> bandwidth. They also have a "Considerate Operator's Guide" which
> differentiates between "Data" and "Automatic Data Stations" rather
> than "RTTY" and "Packet".
>
> Where is the "published schedule of frequencies" for wideband
> digital stations published?
>
> What modes are considered wideband?
>
> What is WINLINK?
>

> TNX
> Gary
>
> ---
> You are currently subscribed to hfsig as: barry@lissa.ncsc.mil
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: Wide band <-> Narrow band

From: Gary Chatters <gc@Radix.Net>
Date: Thu, 3 Feb 2000 10:13:13 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64240-2000.02.03-09.10.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>   Let me try to explain WINLINK operation. There are numerous fixed
>stations around the world that are mail store and forward stations. Many if not

Thanks for the explanation, Barry. It covers what I want to know for now.
I had been vaguely aware of automated packet systems, but didn't know
anything about WinLink specifically.

[...]
>   There are a number of pages on the internet that has frequencies and
>operating information on WINLINK. You might search for N4CJX and start there.

My initial web search turned up a lot of unrelated pages, which is why
I asked the question. But I tried again and my second attempt succeeded.
There is a web site, http://www.winlink.org, that provides information
and links to specific operator including K4CJX (not N4CJX).

Thanks for the reply.

73,
Gary

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] Re: Wide band <-> Narrow band

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Thu, 3 Feb 2000 08:39:48 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64241-2000.02.03-09.19.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I think that part of the problem is that no one knows about it (them), the
internation gentleman's agreement(s). I, for example, know the agreements
exist; however, I do not know where they are published. I do not believe
that I've seen them lately (the last 2 years at least) in QST and since that
is the only ham publication I have been taking in the last 10 years, I may
or may not know about these international gentleman's agreements.

I am quite perplexed that our government (U.S.A.), as well as others, talk
about a global presence, yet when it comes to our (their) laws, we become
quite parochial in creating them and applying them.

Walt

-----Original Message-----
From: Hank Greeb [mailto:hgreeb@one.net]
Sent: Thursday, February 03, 2000 12:20 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: Wide band <-> Narrow band

It has been my observation that many (most) hams in the United States of
America have
little to no regard for the "gentlemen's agreements" which exist in other
parts of the
world. This is unfortunate, because it gives us all a black eye, even those
who read
the international agreements and try to live by them.

73 de n8xx Hg

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] Re: Wide band <-> Narrow band

From: Barry LaZar <barry@lissa.ncsc.mil>
Date: Thu, 03 Feb 2000 13:58:35 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64273-2000.02.03-12.54.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gary,
    Oops. You're correct. I should have said K4CJX.

Vy 73,
Barry
K3NDM

Gary Chatters wrote:

> >   Let me try to explain WINLINK operation. There are numerous fixed
> >stations around the world that are mail store and forward stations. Many if not
>
> Thanks for the explanation, Barry. It covers what I want to know for now.
> I had been vaguely aware of automated packet systems, but didn't know
> anything about WinLink specifically.
>
> [...]
> >   There are a number of pages on the internet that has frequencies and
> >operating information on WINLINK. You might search for N4CJX and start there.
>
> My initial web search turned up a lot of unrelated pages, which is why
> I asked the question. But I tried again and my second attempt succeeded.
> There is a web site, http://www.winlink.org, that provides information
> and links to specific operator including K4CJX (not N4CJX).
>
> Thanks for the reply.
>
> 73,
> Gary
>
> ---
> You are currently subscribed to hfsig as: barry@lissa.ncsc.mil
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] Re: Wide band <-> Narrow band

From: "Murray Greenman" <murrayg@indcom.co.nz>
Date: Fri, 4 Feb 2000 08:32:41 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64279-2000.02.03-13.26.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt, Hank and others,

I agree - it isn't easy to find out about the international agreements
unless your local publications keep you up to date. It sounds to me as
though in this way the ARRL and QST may have failed to keep you informed.

I have recent copies of the Region I (Europe and Africa) and Region III
(Asia and the Pacific) IARU recommendations, which I will summarise on this
reflector if you wish, but have yet to track down Region II (the Americas).
I suggest an email to Newington might be in order!

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: Wide band <-> Narrow band

From: Doug Faunt N6TQS +1-510-655-8604 <faunt@netcom.com>
Date: Thu, 3 Feb 2000 11:43:23 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "hfsig@lists.tapr.org"
 <LYR3438-64279-2000.02.03-13.26.20--FAUNT#NETCOM.COM@lists.tapr.org>
 (murrayg@indcom.co.nz)
Message-ID: <LYR4070-64282-2000.02.03-13.43.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I haven't been following this very closely, but the ARRL pubs I've
looked at show 14.070-14.099 and 14.101-.112 for digital modes, which
seems to match the IARU band plans. Where have other versions of this
bandplan appeared under the ARRL banner?
73, doug

   From: "Murray Greenman" <murrayg@indcom.co.nz>
   Date: Fri, 4 Feb 2000 08:32:41 +1300

   Walt, Hank and others,

   I agree - it isn't easy to find out about the international agreements
   unless your local publications keep you up to date. It sounds to me as
   though in this way the ARRL and QST may have failed to keep you informed.

   I have recent copies of the Region I (Europe and Africa) and Region III
   (Asia and the Pacific) IARU recommendations, which I will summarise on this
   reflector if you wish, but have yet to track down Region II (the Americas).
   I suggest an email to Newington might be in order!

   Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] Re: Wide band <-> Narrow band

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Thu, 3 Feb 2000 13:53:11 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64285-2000.02.03-13.51.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"...but the ARRL pubs I've looked at show 14.070-14.099 and 14.101-.112 for
digital modes..."

All this indicates to me is that should use any digital mode here...wide,
narrow or in between. I'll bet that's what most U.S. hams think...and OBTW,
CW is a digital mode.

Walt

-----Original Message-----
From: Doug Faunt N6TQS +1-510-655-8604 [mailto:faunt@netcom.com]
Sent: Thursday, February 03, 2000 1:43 PM
To: TAPR HF Special Interest Group
Cc: hfsig@lists.tapr.org
Subject: [hfsig] Re: Wide band <-> Narrow band

I haven't been following this very closely, but the ARRL pubs I've
looked at show 14.070-14.099 and 14.101-.112 for digital modes, which
seems to match the IARU band plans. Where have other versions of this
bandplan appeared under the ARRL banner?
73, doug

   From: "Murray Greenman" <murrayg@indcom.co.nz>
   Date: Fri, 4 Feb 2000 08:32:41 +1300

   Walt, Hank and others,

   I agree - it isn't easy to find out about the international agreements

unless your local publications keep you up to date. It sounds to me as
though in this way the ARRL and QST may have failed to keep you informed.

I have recent copies of the Region I (Europe and Africa) and Region III
(Asia and the Pacific) IARU recommendations, which I will summarise on
this
reflector if you wish, but have yet to track down Region II (the
Americas).
I suggest an email to Newington might be in order!

Murray ZL1BPU

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

22. [hfsig] Re: Wide band <-> Narrow band

From: Doug Faunt N6TQS +1-510-655-8604 <faunt@netcom.com>
Date: Thu, 3 Feb 2000 12:15:15 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "hfsig@lists.tapr.org"
 <LYR3438-64285-2000.02.03-13.51.43--FAUNT#NETCOM.COM@lists.tapr.org>
 (Walt.DuBose@RANDOLPH.AF.MIL)
Message-ID: <LYR4070-64288-2000.02.03-14.15.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes, and the assumption is that you can run CW anywhere, just like the
IARU Region 1 bandplan.

My information on IARU Region 1 band plans, from the current RSGB
Yearbook, also makes no differentiation between narrow and wide
bandwidth digital modes, just like the ARRL pubs. It also shows phone
allowed in the 14.101 to 14.112 segment.

And my copy of the NZART Callbook (1998/9) shows the limitation on
wide bandwidth modes to be above 14.070, just like the ARRL and RSGB.
It's very explicit there.

I tend to agree that the modes would be best separated by bandwidth,
but, as far as I can tell, the ARRL isn't the culprit here.
They seem to be saying the same thing that RSGB and NZART are saying.

Maybe I missed some significant point, or maybe the argument is
proceeding with false information.

73, doug

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Thu, 3 Feb 2000 13:53:11 -0600

"...but the ARRL pubs I've looked at show 14.070-14.099 and 14.101-.112 for
digital modes..."

All this indicates to me is that should use any digital mode here...wide,
narrow or in between. I'll bet that's what most U.S. hams think...and OBTW,
CW is a digital mode.

Walt

-----Original Message-----
From: Doug Faunt N6TQS +1-510-655-8604 [mailto:faunt@netcom.com]
Sent: Thursday, February 03, 2000 1:43 PM
To: TAPR HF Special Interest Group
Cc: hfsig@lists.tapr.org
Subject: [hfsig] Re: Wide band <-> Narrow band

I haven't been following this very closely, but the ARRL pubs I've
looked at show 14.070-14.099 and 14.101-.112 for digital modes, which
seems to match the IARU band plans. Where have other versions of this
bandplan appeared under the ARRL banner?
73, doug

From: "Murray Greenman" <murrayg@indcom.co.nz>
Date: Fri, 4 Feb 2000 08:32:41 +1300

Walt, Hank and others,

I agree - it isn't easy to find out about the international agreements unless your local publications keep you up to date. It sounds to me as though in this way the ARRL and QST may have failed to keep you informed.

I have recent copies of the Region I (Europe and Africa) and Region III (Asia and the Pacific) IARU recommendations, which I will summarise on this reflector if you wish, but have yet to track down Region II (the Americas).
I suggest an email to Newington might be in order!

Murray ZL1BPU

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: FAUNT@NETCOM.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] Re: Wide band <-> Narrow band

From: DuBose <dubose@texas.net>
Date: Thu, 03 Feb 2000 22:39:30 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64362-2000.02.03-22.32.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug,

I suppose the ultimate band plan would simply say use whatever mode you want wherever you want and let the most robust mode rule... survival of the fittest huh?

Walt

Doug Faunt N6TQS +1-510-655-8604 wrote:

> Yes, and the assumption is that you can run CW anywhere, just like the
> IARU Region 1 bandplan.
>
> My information on IARU Region 1 band plans, from the current RSGB
> Yearbook, also makes no differentiation between narrow and wide
> bandwidth digital modes, just like the ARRL pubs. It also shows phone
> allowed in the 14.101 to 14.112 segment.
>
> And my copy of the NZART Callbook (1998/9) shows the limitation on
> wide bandwidth modes to be above 14.070, just like the ARRL and RSGB.
> It's very explicit there.
>
> I tend to agree that the modes would be best separated by bandwidth,
> but, as far as I can tell, the ARRL isn't the culprit here.
> They seem to be saying the same thing that RSGB and NZART are saying.
>
> Maybe I missed some significant point, or maybe the argument is
> proceeding with false information.
>
> 73, doug
>
>   From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
>   Date: Thu, 3 Feb 2000 13:53:11 -0600
>
>   "...but the ARRL pubs I've looked at show 14.070-14.099 and 14.101-.112 for
>   digital modes..."
>
>   All this indicates to me is that should use any digital mode here...wide,
>   narrow or in between. I'll bet that's what most U.S. hams think...and OBTW,

> CW is a digital mode.
>
> Walt
>
> -----Original Message-----
> From: Doug Faunt N6TQS +1-510-655-8604 [mailto:faunt@netcom.com]
> Sent: Thursday, February 03, 2000 1:43 PM
> To: TAPR HF Special Interest Group
> Cc: hfsig@lists.tapr.org
> Subject: [hfsig] Re: Wide band <-> Narrow band
>
> I haven't been following this very closely, but the ARRL pubs I've
> looked at show 14.070-14.099 and 14.101-.112 for digital modes, which
> seems to match the IARU band plans. Where have other versions of this
> bandplan appeared under the ARRL banner?
> 73, doug
>
> From: "Murray Greenman" <murrayg@indcom.co.nz>
> Date: Fri, 4 Feb 2000 08:32:41 +1300
>
> Walt, Hank and others,
>
> I agree - it isn't easy to find out about the international agreements
> unless your local publications keep you up to date. It sounds to me as
> though in this way the ARRL and QST may have failed to keep you informed.
>
> I have recent copies of the Region I (Europe and Africa) and Region III
> (Asia and the Pacific) IARU recommendations, which I will summarise on
> this
> reflector if you wish, but have yet to track down Region II (the
> Americas).
> I suggest an email to Newington might be in order!
>
> Murray ZL1BPU
>
> ---
> You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> ---
> You are currently subscribed to hfsig as: FAUNT@NETCOM.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

--
Please view The DuBose Home Page at URL: http://dubose.home.texas.net

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Re: Wide band <-> Narrow band

From: Doug Faunt N6TQS +1-510-655-8604 <faunt@netcom.com>
Date: Thu, 3 Feb 2000 20:45:11 -0800 (PST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64363-2000.02.03-22.45.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You're typing nonsense. What are you trying to say?

The point was not what the band plans should say, but what they DO
say, worldwide.

73, doug

Date: Thu, 03 Feb 2000 22:39:30 -0600
From: DuBose <dubose@texas.net>
Reply-To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>

Doug,

I suppose the ultimate band plan would simply say use whatever mode you want

wherever you want and let the most robust mode rule... survival of the fittest
huh?

Walt

Doug Faunt N6TQS +1-510-655-8604 wrote:

> Yes, and the assumption is that you can run CW anywhere, just like the
> IARU Region 1 bandplan.
>
> My information on IARU Region 1 band plans, from the current RSGB
> Yearbook, also makes no differentiation between narrow and wide
> bandwidth digital modes, just like the ARRL pubs. It also shows phone
> allowed in the 14.101 to 14.112 segment.
>
> And my copy of the NZART Callbook (1998/9) shows the limitation on
> wide bandwidth modes to be above 14.070, just like the ARRL and RSGB.
> It's very explicit there.
>
> I tend to agree that the modes would be best separated by bandwidth,
> but, as far as I can tell, the ARRL isn't the culprit here.
> They seem to be saying the same thing that RSGB and NZART are saying.
>
> Maybe I missed some significant point, or maybe the argument is
> proceeding with false information.
>
> 73, doug
>
>   From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
>   Date: Thu, 3 Feb 2000 13:53:11 -0600
>
>   "...but the ARRL pubs I've looked at show 14.070-14.099 and 14.101-.112 for
>   digital modes..."
>
>   All this indicates to me is that should use any digital mode here...wide,
>   narrow or in between. I'll bet that's what most U.S. hams think...and OBTW,
>   CW is a digital mode.
>
>   Walt
>
>   -----Original Message-----
>   From: Doug Faunt N6TQS +1-510-655-8604 [mailto:faunt@netcom.com]
>   Sent: Thursday, February 03, 2000 1:43 PM
>   To: TAPR HF Special Interest Group
>   Cc: hfsig@lists.tapr.org
>   Subject: [hfsig] Re: Wide band <-> Narrow band
>
>   I haven't been following this very closely, but the ARRL pubs I've
>   looked at show 14.070-14.099 and 14.101-.112 for digital modes, which
>   seems to match the IARU band plans. Where have other versions of this
>   bandplan appeared under the ARRL banner?
>   73, doug
>
>   From: "Murray Greenman" <murrayg@indcom.co.nz>
>   Date: Fri, 4 Feb 2000 08:32:41 +1300
>
>   Walt, Hank and others,
>
>   I agree - it isn't easy to find out about the international agreements
>   unless your local publications keep you up to date. It sounds to me as
>   though in this way the ARRL and QST may have failed to keep you informed.
>
>   I have recent copies of the Region I (Europe and Africa) and Region III
>   (Asia and the Pacific) IARU recommendations, which I will summarise on
>   this
>   reflector if you wish, but have yet to track down Region II (the
>   Americas).
>   I suggest an email to Newington might be in order!
>
>   Murray ZL1BPU
>
>   ---
>   You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
>   To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>   ---

>   You are currently subscribed to hfsig as: FAUNT@NETCOM.COM
>   To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

--
Please view The DuBose Home Page at URL: http://dubose.home.texas.net

---
You are currently subscribed to hfsig as: FAUNT@NETCOM.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

25. [hfsig] Re: Wide band <-> Narrow band

From: Hamish Moffatt <hamish@rising.com.au>
Date: Fri, 4 Feb 2000 17:54:13 +1100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64395-2000.02.04-00.51.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Feb 03, 2000 at 10:39:30PM -0600, DuBose wrote:
> I suppose the ultimate band plan would simply say use whatever mode you want
> wherever you want and let the most robust mode rule... survival of the fittest
> huh?

I think that's the best part about a completely gentleman's agreement
band plan -- I can ignore it when it suits me! Our regulatory authority,
the Australian Communications Agency, does not issue any band plan at all.
The Wireless Institute of Australia's band plan says eg 14.000-070 are
CW only, 070-112 is "FSK", 080-095 is RTTY -- but I certainly feel
that it's within the spirit of the plan to do PSK31 and Hell on the
frequencies we are currently using.

Likewise .112 to .350 is for SSB and image modes -- but I think MT63
fits in well enough.

I hope other countries have as much lattitude in their band plans as
we do, I sure do like it our way!

Hamish VK3SB
--
Hamish Moffatt   Mobile: +61 412 011 176   hamish@rising.com.au
Rising Software Australia Pty. Ltd.   http://www.risingsoftware.com/
Phone: +61 3 9894 4788   Fax: +61 3 9894 3362   USA: 1 888 667 7839

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

26. [hfsig] PC-Ale net ?

From: "Paulus" <paulstra@xs4all.nl>
Date: Fri, 4 Feb 2000 20:44:32 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64479-2000.02.04-13.42.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello all,

Is there allready an ALE net around ?

73 de Paul, pa0ocd

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

27. [hfsig] Re: PC-Ale net ?

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 04 Feb 2000 20:16:12 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64481-2000.02.04-14.18.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Paulus wrote:
>
> Hello all,
>
> Is there allready an ALE net around ?
>
> 73 de Paul, pa0ocd
>

Hello Paulus,

Not to my knowledge, there are a couple of people playing with it on
10 meters in the U.K. But mainly it is being used by utility monitors
to listen to various military and diplomatic nets (or so I have been told,
as it is illegal for me to do such a thing in the U.K).

Personally I don't think it is particularly compatible with normal Amateur
radio practice.

I have done some tests using the DBM mode and it appears quite robust even on
80 meters late in the evening, it will pass traffic on channels that are
unusable for normal voice comms (or digital voice).

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

28. [hfsig] Re: Wide Band <-> Narrow Band

From: Hank Greeb <hgreeb@one.net>
Date: Sat, 5 Feb 2000 00:27:32 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64546-2000.02.04-23.25.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What appears to be a valid version of the IARU Region I Band Plan is at

http://www.sk3bg.se/eiarur1.htm

For Australia (and probably that region), the recommendations are at

http://www.wia.org.au/BandPlans/default.htm

A whole bunch of places have the US band plan, including

http://www.arrl.org/field/regulations/bandplan.html

Some 345 references came up when searching yahoo.com using +"amateur radio" +"band plan"

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

29. [hfsig] HF DSP radios

From: Edson Pereira <edson@sylvia.harvard.edu>
Date: Thu, 17 Feb 2000 18:57:28 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-66457-2000.02.17-17.55.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello all,

I am about to buy a new HF radio and am debating if I should buy a
DSP-based (like the ic-756pro) radio or stay with the analog ones. My main
interest is digital modes on HF (psk31, mt63, etc.)

I have seen some comments from people experiencing problems with some
audio based DSP (spectral leaking) when using psk31, for instance. Does
anyone have experience with IF-based DSP? For those of us who want do do
DSP at the desktop (or external DSP card like the motorola EVM) is there

any gain/loss for using a IF-based HF radio?

Any comments are apreciated.

73,

-- Edson, N1VTN

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

30. [hfsig] Re: HF DSP radios

From: Alberto di Bene <dibene@usa.net>
Date: Fri, 18 Feb 2000 10:20:43 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-66518-2000.02.18-03.20.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well,
audio is just another level of IF, the last one. In my opinion what
should be looked at is whether the DSP is inside or outside the AGC loop.
This can happen (both ways) both with IF and audio DSPs.
I strongly doubt that spectral leaking can be caused by the DSP being at
audio frequency. Most probably the culprit is on hardware (bad screening)
or software (filter badly designed).

Alberto I2PHD

Edson Pereira wrote:

> Hello all,
>
> I am about to buy a new HF radio and am debating if I should buy a
> DSP-based (like the ic-756pro) radio or stay with the analog ones. My main
> interest is digital modes on HF (psk31, mt63, etc.)
>
> I have seen some comments from people experiencing problems with some
> audio based DSP (spectral leaking) when using psk31, for instance. Does
> anyone have experience with IF-based DSP? For those of us who want do do
> DSP at the desktop (or external DSP card like the motorola EVM) is there
> any gain/loss for using a IF-based HF radio?
>
> Any comments are apreciated.
>
> 73,
>
> -- Edson, N1VTN
>
> ---
> You are currently subscribed to hfsig as: DIBENE@USA.NET
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

31. [hfsig] Re: HF DSP radios

From: Barry LaZar <barry@lissa.ncsc.mil>
Date: Tue, 22 Feb 2000 08:59:58 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-67218-2000.02.22-07.56.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have a Kenwood TS-870 which is a DSP radio. I have not done extensive testing
of the radio except on the air. I read PSK-31 no problem at all. Having the ability
to put narrow filters where I want them I believe is a benefit to any mode. I use the
narrow filters where I can as this helps improve the SNR and helps nicely with
interference.
I haven't played with the new ICOM radio, but I have others. I would not worry
about DSP radios performing.

Barry
K3NDM

Alberto di Bene wrote:

> Well,
> audio is just another level of IF, the last one. In my opinion what
> should be looked at is whether the DSP is inside or outside the AGC loop.
> This can happen (both ways) both with IF and audio DSPs.
> I strongly doubt that spectral leaking can be caused by the DSP being at
> audio frequency. Most probably the culprit is on hardware (bad screening)
> or software (filter badly designed).
>
> Alberto I2PHD
> ------------------
>
> Edson Pereira wrote:
>
> > Hello all,
> >
> > I am about to buy a new HF radio and am debating if I should buy a
> > DSP-based (like the ic-756pro) radio or stay with the analog ones. My main
> > interest is digital modes on HF (psk31, mt63, etc.)
> >
> > I have seen some comments from people experiencing problems with some
> > audio based DSP (spectral leaking) when using psk31, for instance. Does
> > anyone have experience with IF-based DSP? For those of us who want do do
> > DSP at the desktop (or external DSP card like the motorola EVM) is there
> > any gain/loss for using a IF-based HF radio?
> >
> > Any comments are apreciated.
> >
> > 73,
> >
> > -- Edson, N1VTN
> >
> > ---
> > You are currently subscribed to hfsig as: DIBENE@USA.NET
> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> ---
> You are currently subscribed to hfsig as: barry@lissa.ncsc.mil
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

32. [hfsig] Definition of rf operating frq for data modes?

From: "pmarkham" <pmarkham@newsguy.com>
Date: Thu, 24 Feb 2000 13:13:36 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-67767-2000.02.24-12.12.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was told by someone, after a long wrangle on APRSSIG some
years ago, that the rf frequency of operation for hf digital modes was
communicated by reference to "mark" as the LOWEST EMITTED RF FREQUENCY. He
asserted that the definition (his/mine, above) was the standard for all
commercial hf data stations. The definition he provided made all variations of
radios, tncs, modems, etc. irrelevant regarding discussions of rf frequency of
operation relative to typical amateur hf data modes.

eg. 10,149,200 Hz, mark.

The above would be read as"The lowest emitted frequency of operation for the
data mode considered is 10,149,200 Hz."

I did not research his assertion, then, as it was unequivocable, from high
authority, and given all the other options I heard, read or considered; made
the most sense ;-) It is possible that he, and consequently me, got it
wrong. But....

The definition provided that I embraced, whole-heartedly, requires
technical knowledge of the mode and equipment used. That technical requirement
is inconsistent with many folks current view of the world that they can be or
do anything with little to no knowledge. To foster the current view, specific
instructions are often given for a specific activity with little concern of
"universal" definitions given to the jargon used. Consequently, confusion
reigns, and apparently, relative to the topic at hand, as far as I am
concerned, still does!

This morning, I spent a few hours searching the internet for a definition with
authority, and failed. I did find several that referred to the mark rf
frequency as corresponding to the lower mark afsk modulating tone. Those
definitions were predicated on the premise that the rf mode was lsb and the
data mode was "sense" sensitive, such as Pactor.

The definition I accepted was predicated on defining the lowest emitted rf
frequency for the mode considered and from there it was up to the operator to
set up his unique equipment, correctly, for the considered mode.

If someone can provide an authoritative reference for communicating the
frequency of operation for hf data modes, I would appreciate it. Internet
accessible, on line references, would be most valuable.

Pete/wa4hei

Eschew obfuscation.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

33. [hfsig] Re: Definition of rf operating frq for data modes?

From: "Murray Greenman" <murrayg@indcom.co.nz>
Date: Fri, 25 Feb 2000 08:46:40 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-67774-2000.02.24-13.41.14--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pete,

I doubt if an authoritative definition would be of help to you. As you may
well appreciate, internet documents in particular are notoriously
unreliable!

Of more use to you would be the definitions in popular use. There are two:

1. Mark Frequency
The most common of these, which is easily verified, is to measure the idle
carrier (or "Mark" in RTTY parlance) frequency of the transmitter with a
frequency counter. This gives the result quoted as "xx.xxx MHz Mark" or
"xx.xxx MHz carrier". This technique works fine for most FSK and OOK modes,
and can also be derived by calculation from a known baseband frequency and
transceiver dial frequency. The latter technique is necessary for complex
transmissions such as Clover.

2. The other system in common use (which has the advantage of simplicity,
although with less dependable repeatability) is to quote the "dial
frequency" of an SSB receiver set to receive the transmission, or in the
case of a transceiver, the dial frequency of the transmitter. This of course
bears no reliable relationship to the actual transmitted frequency unless
the audio tone frequencies and the sideband are known. This technique works
well with transmissions which are very complex, have no easily definable
"Mark" frequency that can be measured, always use the same baseband
frequencies and sideband by convention, or are commonly used in conjunction
with SSB. Thus SSTV, FAX and MT63 transmissions are frequently quoted as
"xx.xxx MHz USB".

This latter system should not be used for transmissions which may have
different baseband tone frequencies in different implementations, or can be
used on either sideband without problems - for example RTTY, PSK31 and
Hellschreiber should never be quoted in this way.

So long as you understand which method is in use, and have an appreciation
of where the actual signal will be in relation to the quoted frequency, a
formal definition hardly matters. Unfortunately many Amateurs do not
appreciate the difference, but I for one am happy with the status quo.

If such an authoritative definition did exist, what would you do with it? Is
it simply fuel for an esoteric argument?

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

34. [hfsig] Re: Definition of rf operating frq for data modes?

From: Lester.Veenstra@comsat.com
Date: Thu, 24 Feb 2000 16:01:36 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-67782-2000.02.24-15.02.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In this context the ITU/FCC assigned frequencies for maritime digital
channels are the center (of occupied BW) frequencies.

_____ Reply Separator _____
Subject: [hfsig] Definition of rf operating frq for data modes?
Author: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org> at INTERNET
Date: 2/24/00 1:13 PM

I was told by someone, after a long wrangle on APRSSIG some
years ago, that the rf frequency of operation for hf digital modes was
communicated by reference to "mark" as the LOWEST EMITTED RF FREQUENCY. He
asserted that the definition (his/mine, above) was the standard for all
commercial hf data stations. The definition he provided made all variations of
radios, tncs, modems, etc. irrelevant regarding discussions of rf frequency of
operation relative to typical amateur hf data modes.

eg. 10,149,200 Hz, mark.

The above would be read as"The lowest emitted frequency of operation for the
data mode considered is 10,149,200 Hz."

I did not research his assertion, then, as it was unequivocable, from high
authority, and given all the other options I heard, read or considered; made
the most sense ;-) It is possible that he, and consequently me, got it
wrong. But....

The definition provided that I embraced, whole-heartedly, requires
technical knowledge of the mode and equipment used. That technical requirement
is inconsistent with many folks current view of the world that they can be or
do anything with little to no knowledge. To foster the current view, specific
instructions are often given for a specific activity with little concern of
"universal" definitions given to the jargon used. Consequently, confusion
reigns, and apparently, relative to the topic at hand, as far as I am
concerned, still does!

This morning, I spent a few hours searching the internet for a definition with
authority, and failed. I did find several that referred to the mark rf
frequency as corresponding to the lower mark afsk modulating tone. Those
definitions were predicated on the premise that the rf mode was lsb and the
data mode was "sense" sensitive, such as Pactor.

The definition I accepted was predicated on defining the lowest emitted rf
frequency for the mode considered and from there it was up to the operator to
set up his unique equipment, correctly, for the considered mode.

If someone can provide an authoritative reference for communicating the
frequency of operation for hf data modes, I would appreciate it. Internet
accessible, on line references, would be most valuable.

Pete/wa4hei

Eschew obfuscation.

You are currently subscribed to hfsig as: LESTER.VEENSTRA@COMSAT.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
[Attachment: RFC822 message headers; text/plain; 1,156 bytes]

35. [hfsig] Re: Definition of rf operating frq for data modes?

From: "pmarkham" <pmarkham@newsguy.com>
Date: Fri, 25 Feb 2000 00:45:07 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>

Message-ID: <LYR4070-67883-2000.02.24-23.43.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi, Murray.

My query is not concerned with fuel for an esoteric argument. It is a consequence of my mostly failed attempts over the years to meet other operators on a particular frequency with automated hf packet. I have serious interest in other digital modes but I have no desire to spend my life on or around one frequency because it is next to impossible to find someone to whom I can communicate another frequency of operation without having a detailed understanding of the other party's station and knowledge, or lack thereof.

It strikes me as ridiculous that one must scan through a monitored frequency waiting for a desired signal to rise from the noise somewhere in the general vicinity of the chosen frequency. One should be able to say "find me at 10,149,200 Hz", for example, set up the equipment and go visit friends knowing that the other party will set up their equipment in an appropriate manner and, with favourable propagation conditions, automatically establish communications with my station, on the agreed frequency, without tuning around, listening for my signal, etc., whether I am at the helm or not.

The differences in individual perception and understanding of what the equipment dials and displays actually mean, relative to the mode of transmission, is cause for much frustration, disappointment and I know, for me, minimal use of digital modes.

The lack of understanding even extends to the most simple of digital modes, cw. I was amazed at a recent heated thread on the WSVHF reflector that cantered about the problems of communicating a frequency for a scheduled cw contact. It never occurred to me, when I set up a meteor scatter, manual cw qso, that stating a frequency could be other than the transmitted rf frequency of a cw transmission to which both of us would tune our receivers. I did find the station, not on the agreed upon frequency but by tuning for the source of cw clicks, that made it "past" my filters during a particularly favourable meteor burn.

Unfortunately, for me, the ability of many in the amateur fraternity to do much more than read the numbers on a transceiver display is more of an esoteric than mundane task. My efforts to explain the necessary techniques and arithmetic to establish on frequency contacts with digital modes results, more often than not, in glazed eyes and continued wasted time hunting for signals.

Nope; it ain't esoteric.

Pete/wa4hei

On 25 Feb 00, at 8:46, Murray Greenman wrote:

Much deleted...

> This latter system should not be used for transmissions which may have
> different baseband tone frequencies in different implementations, or can be
> used on either sideband without problems - for example RTTY, PSK31 and
> Hellschreiber should never be quoted in this way.
>
> So long as you understand which method is in use, and have an appreciation
> of where the actual signal will be in relation to the quoted frequency, a
> formal definition hardly matters. Unfortunately many Amateurs do not
> appreciate the difference, but I for one am happy with the status quo.
>
> If such an authoritative definition did exist, what would you do with it? Is
> it simply fuel for an esoteric argument?
>
> 73,
>
> Murray ZL1BPU
>

Eschew obfuscation.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

36. [hfsig] Re: Definition of rf operating frq for data modes?

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Fri, 25 Feb 2000 20:36:59 +1300

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-67917-2000.02.25-01.41.30--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pete,

Couldn't agree more! I doubt if you will ever succeed in educating the
masses that can't read, let alone add simple numbers together!

Still there are a few of us who can do as you obviously can - arrive on an
agreed frequency within 10 - 20 Hz. That's the way it should be, but so many
of the Amateur fraternity are still (mentally at least) in the old VFO tuned
AM rig mindset.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

37. [hfsig] Re: hfsig digest: February 24, 2000

From: Mike Kelly <ab4yy@rma.edu>
Date: Fri, 25 Feb 2000 05:13:20 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-67928-2000.02.25-04.12.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Below is a message I leave on my KAM. I work 20M packet keyboard-to-keyboard and looked a
little into this issue a while back. Maybe this information will help you. By the way for
HF packet, the tones I am currently using (fron the KAM) are: 2050/2250. I do fine with the
FT-1000 set for an IF bandwidth of 500 Hz.
73 - Mike   __o
       EMAIL: ab4yy@rma.edu   _`\<,_
     AMPRNet: ab4yy@k3ygg.ampr.org (*)/ (*)
AX.25 PACKET: ab4yy@kf4lgv.#lind.va.usa.noam

==========
"Is my HF Dial Right?!!!!!!"

The following is an extract from the YAESU FT-1000 Operating
Manual.

Extract from section:
        Digital Modes: AMTOR, RTTY & Packet

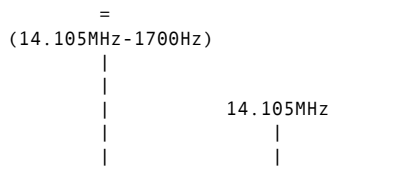
300-Baud Packet

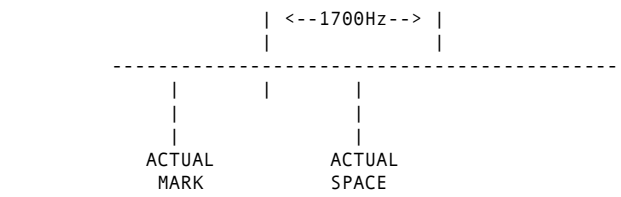
... The FT-1000 includes a packet frequency display offset
feature that allows it to display the center frequency of the two
transmitted carriers, without any offset, in accordance with the
latest convention. However, for this to work properly, you must
set the PKT DIP switches in the top access panel to match the
tones generated by your tnc. ...

When tuning, bear in mind that some common hf packet channels,
such as "14.103" MHz, were originally determined to correspond
with an actual IF center frequency 1700 Hz lower (in accordance
with an old TAPR convention). Therefore, if you have the DIP
switches to match your tnc's actual tones, the display will show
14.101.30 when you are tuned to the above frequency--which is the
actual center of your receiver passband, and the frequency
mid-way between the two FSK carriers you will transmit.

= = = = = = =

That explains why "14.105" on my FT-1000 dial reads 14.103.30.





==========

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

March 2000

Original source file: hfsig.0003
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0003

1. [hfsig] AD:Family Reunion T Shirts & More

From: <print4me@nfmail.com>
Date: Sun, 19 Mar 2000 14:15:28
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72159-2000.03.19-16.50.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Message sent by: Kuppler Graphics, 32 West Main Street, Maple
Shade, New Jersey, 08052,
1-800-810-4330.   This list will NOT be sold. All addresses
are automatically added to our remove list.

Hello. My name is Bill from Kuppler Graphics. We do
screenprinting on T Shirts, Sweatshirts,
Jackets, Hats, Tote Bags and more!

Do you or someone you know have a Family Reunion coming up?
Kuppler Graphics would like to
provide you with some great looking T Shirts for your Reunion.

Kuppler Graphics can also provide you with custom T's and
promotional items such as imprinted
magnets, keychains, pens, mugs, hats, etc. for your business or
any fundraising activity
(church, school, business etc.) We also can provide you with
quality embroidery.

We are a family owned company with over 15 years of experience.

All work is done at this location. No middle man. Our prices
are great!

Click reply to email us or call 1-800-810-4330 for more info

Bill
Kuppler Graphics

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: AD:Family Reunion T Shirts & More

From: ko4qc@mindspring.com
Date: Sun, 19 Mar 2000 18:07:12 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72167-2000.03.19-17.06.48--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What the hell has this to do with HF radio?

At 02:15 PM 3/19/00, you wrote:
>Message sent by: Kuppler Graphics, 32 West Main Street, Maple
>Shade, New Jersey, 08052,
>1-800-810-4330.   This list will NOT be sold. All addresses
>are automatically added to our remove list.
>
>Hello. My name is Bill from Kuppler Graphics. We do
>screenprinting on T Shirts, Sweatshirts,
>Jackets, Hats, Tote Bags and more!
>

>Do you or someone you know have a Family Reunion coming up?
>Kuppler Graphics would like to
>provide you with some great looking T Shirts for your Reunion.
>
>Kuppler Graphics can also provide you with custom T's and
>promotional items such as imprinted
>magnets, keychains, pens, mugs, hats, etc. for your business or
>any fundraising activity
>(church, school, business etc.) We also can provide you with
>quality embroidery.
>
>We are a family owned company with over 15 years of experience.
>
>All work is done at this location. No middle man. Our prices
>are great!
>
>Click reply to email us or call 1-800-810-4330 for more info
>
>
>Bill
>Kuppler Graphics
>
>
>
>
>
>
>
>
>
>
>
>
>---
>You are currently subscribed to hfsig as: ko4qc@mindspring.com
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] RE: T-shirts & ON TOPIC QUESTIONS TOO...

From: Mastenbrook Gary-G13216 <Gary.Mastenbrook@motorola.com>
Date: Mon, 20 Mar 2000 08:40:53 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72354-2000.03.20-08.58.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Joel- This is called "spam", and was undoubtedly made possible by someone signing up for the list with the intention of sending such email to all of the list members. About all we can do is:

1. Not repeat the entire text of the spam message in replies to the list. (This gives further exposure to their advertising.)

2. Give the list maintainer (who always reads the messages at some point during the day, right?), a chance to see the spam and remove the individual from the members list.

3. Understand that the person who sends out these messages does not usually check back or otherwise monitor the reflector to see how their message was received. They got their message out, and don't really care about our responses. :o(

4. Make up for the off topic spams by starting up a good thread about something related to the list. This gets everyone's mind back onto the real topic of the list. :o)

Here's my attempt at working point number 4...

Given the recent posts about the narrow vs. wide HF digital modes, I wonder if any one can give an update on how the integration is going? Is there intentional interference between narrow and wide mode operators? On which bands?

Also, awhile back, I made the suggestion that the wide modes consider using a slow speed CW callsign ID at either end of the digital spectrum while the

transmitter is in operation. I understand this has been implemented in at
least one of the wider digital modes. Can anyone give some feedback on how
this worked? Does it allow the 'casual' observer to identify the signal as
being amateur in origin? Can the CW actually be picked out from the
adjacent 'digital noise' and successfully decoded? Did this make answering
the "what is this strange signal in the ham bands? question any easier?

As always, your comments are appreciated.

73's

Gary N8DMT

Gary Mastenbrook, Product Visioneering, Motorola, Inc.
50 E. Commerce Drive, Schaumburg, IL 60173
Email: g13216@email.mot.com
Work Home Page: http://www.mot.com/telematics
Personal Home Page: http://www.qsl.net/n8dmt

-----Original Message-----
From: ko4qc@mindspring.com [mailto:ko4qc@mindspring.com]
Sent: Sunday, March 19, 2000 5:07 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: AD:Family Reunion T Shirts & More

What the h*** has this to do with HF radio?

<snip>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Point nr 4

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Mon, 20 Mar 2000 15:45:20 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72365-2000.03.20-09.50.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Here's my attempt at working point number 4...
>
> Given the recent posts about the narrow vs. wide HF digital modes, I wonder
> Also, awhile back, I made the suggestion that the wide modes consider using
> a slow speed CW callsign ID at either end of the digital spectrum while the
>
> Gary N8DMT

Hello Gary,

I added a CW ident to my digital voice modem as tone 37 and you can just about
understand the CW.

As far as wide vs narrow is concerned I must admit I have moved on from the HF
digital voice and am about to start trials with a PI4-DQPSK modem which I
eventually
hope to use on PIIID when launched, probably on the microwave transponders.

BTW does anyone have a PIIID satellite simulator?

OAAT if anyone hears of Iridium handsets being scrapped, I would like to get
hold
one to pull to pieces.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] R: Point nr 4

From: "Nino Porcino" <ninopo@tin.it>
Date: Wed, 22 Mar 2000 17:47:30 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72878-2000.03.22-10.49.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

about the CW-ID, I've added it to Windows implementation of MT63 (at lower
edge of the signal) and yes I think is a very nice idea.

Charles is there any URL to your digital voice modem ?

Regards,
Nino (IZ8BLY)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: R: Point nr 4

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Wed, 22 Mar 2000 17:01:51 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72879-2000.03.22-10.58.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Nino Porcino wrote:
>
> about the CW-ID, I've added it to Windows implementation of MT63 (at lower
> edge of the signal) and yes I think is a very nice idea.
>
> Charles is there any URL to your digital voice modem ?
>
> Regards,
> Nino (IZ8BLY)
>
> ---
> You are currently subscribed to hfsig as: CHBRAIN@DIRCON.CO.UK
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

Hello Nino,

Well sort of.

http://www.chbrain.dircon.co.uk/dvhf.html

But if you want the 56002 DSP code email me.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

April 2000

Original source file: hfsig.0004
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0004

1. [hfsig] FSK31 specifications

From: "Nino Porcino" <ninopo@tin.it>
Date: Sat, 1 Apr 2000 18:14:37 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-74867-2000.04.01-10.54.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

does anybody knows what are or where to find specification on the FSK-31
mode (PSK-31 variant). ? Any help appreciated.

Nino Porcino (IZ8BLY)
ninopo@tin.it

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Hellschreiber Activity Day

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 6 Apr 2000 15:11:21 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-75663-2000.04.05-21.22.48--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don't forget the next Hellschreiber Activity Day!

29 April 2000 - 0000 to 2400 UTC, all bands

This event is an "uncontest", and a lot of fun!

Final details of voluntary self-scoring system
to be announced soon.

NOTE - this event coincides with, but is not part
of the

           INTERNATIONAL MARCONI DAY

celebrating 97 years since Marconi first transmitted
across the Atlantic - Jan 18, 1903.

(We don't need an excuse, but why not have one anyway)

Raise HELL!

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] STANAG 5066 Annex G

From: Alexander Kurpiers <a.kurpiers@uet.tu-darmstadt.de>
Date: Tue, 11 Apr 2000 15:47:47 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-76763-2000.04.11-08.48.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi!

Does anybody of you have the specification for the new 9k6 waveforms
(should be in Stanag 5066 Annex G). There was a link listed on a web
page, unfortunatly the page it pointed to is gone...

Regards,

Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu
[Attachment: a.kurpiers.vcf; text/x-vCard; 335 bytes]

4. [hfsig] OT:SW to generate 45.45 and 50 baud?

From: "Willmore, David" <WILD4@aerial1.com>
Date: Fri, 14 Apr 2000 09:36:14 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-77460-2000.04.14-09.36.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

is off topic, but the list has been very quite recently, so a little
stirring of the pot might be useful. :)

First, the setup: I was talking to a colleague who has several deaf
friends. As you may know, it is common for deaf people to talk to deaf and
non-deaf people using a little device that sends and receives 45.45 and 50
baud (US and everyone else, of course) encoded in baudot. Simple old TTY
HW, but a bit modernised. He had one of these devices. It has a little
keyboard, a little LCD display, and an acoustic modem. All this for the
low, low price of $300.

Well, being an engineer, I got to thinking that there *has* to be a
better/faster/cheaper way to do this. So, I've been playing around with the
idea of makind a box which plugs into a PS/2 keyboard, an RCA jack for
composite NTSC, an RJ11 (the rest of the world can buy an adapter, sorry),
and a plug for a wall wart.

Now, I'm thinking of creative ways to use very little silicon to accomplish
this feat. The part 68 telco interface was bothering me, but it appears
that Silicon Laboratories has some cool chips that preplace all of the large
magnetics, etc. that it usually takes--I need to look into this.

A while back, I saw a project where someone directly interfaced a PIC micro
to a NTSC TV (owww, forgot about PAL... Hmmm, better check). His example
code played Pong, but I would think that characters wouldn't be too much
harder.

Talking to a PS/2 keyboard is completely brainless.

The only remaining problem is how to send/receive the tones. If I'm lucky,
the chipset from Silicon Labs may do it, but their article was unclear--must
read more.

So, being a ham, (N0YMV) I thought I'd check out the only other remaining
users of TTY equipment for suggestions. Modify that by the subgroup of that
which uses DSP and it dawned on me to ask on HFSIG for suggestions.

Well? :) 45.45 baud can't take too much CPU to decode/encode. Simple
CODECs for voice band are easy, so a DSP approach would be possible, or can
someone suggest a cheap chip (still in production, hopefully) that does
45.45 and 50 baud? BAUDOT is a SW issue that doesn't bother me.

Info on the tones and some of TTY in general are available from
http://tap.gallaudet.edu/tty.htm

Well, any suggestions are welcome, leave it on the list if you feel it
general purpose enough, otherwise, personal is probably better.

Oh, the disclaimer. I have no business interest in this--I'm doing it for
the normal 'gee wiz' reason. If there is money made on it, I'll be
suprised. Heck, I see this being an article in QST or some other
publications and PCBs from Far Circuits kind of thing. I don't speak for
Aerial Communications, etc.

Cheers,
David N0YMV

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: OT:SW to generate 45.45 and 50 baud?

From: "Kerry Berland" <kberland@ix.netcom.com>
Date: Fri, 14 Apr 2000 15:39:11 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-77559-2000.04.14-15.41.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A long time ago, I worked for a teleprinter company.
At that time the TDD terminals used a special
patented modem, the "Weitbrecht" modem or something
like that. Are you trying to maintain compatibility
with the existing TDD terminals, or are you going to
break free and make an equivalent?

Best regards,

Kerry Berland
kerry@siliconengines-ltd.com
847-803-6860
Fax 847-803-6870
----- Original Message -----
From: Willmore, David <WILD4@aerial1.com>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Sent: Friday, April 14, 2000 9:36 AM
Subject: [hfsig] OT:SW to generate 45.45 and 50 baud?

| is off topic, but the list has been very quite recently,
so a little
| stirring of the pot might be useful. :)
|
| First, the setup: I was talking to a colleague who has
several deaf
| friends. As you may know, it is common for deaf people to
talk to deaf and
| non-deaf people using a little device that sends and
receives 45.45 and 50
| baud (US and everyone else, of course) encoded in baudot.
Simple old TTY
| HW, but a bit modernised. He had one of these devices.
It has a little
| keyboard, a little LCD display, and an acoustic modem.
All this for the
| low, low price of $300.
|
| Well, being an engineer, I got to thinking that there
has to be a
| better/faster/cheaper way to do this. So, I've been
playing around with the
| idea of makind a box which plugs into a PS/2 keyboard, an
RCA jack for
| composite NTSC, an RJ11 (the rest of the world can buy an
adapter, sorry),
| and a plug for a wall wart.
|
| Now, I'm thinking of creative ways to use very little
silicon to accomplish
| this feat. The part 68 telco interface was bothering me,
but it appears
| that Silicon Laboratories has some cool chips that
preplace all of the large
| magnetics, etc. that it usually takes--I need to look into
this.
|
| A while back, I saw a project where someone directly
interfaced a PIC micro
| to a NTSC TV (owww, forgot about PAL... Hmmm, better
check). His example
| code played Pong, but I would think that characters
wouldn't be too much
| harder.
|
| Talking to a PS/2 keyboard is completely brainless.
|
| The only remaining problem is how to send/receive the
tones. If I'm lucky,
| the chipset from Silicon Labs may do it, but their article
was unclear--must

| read more.
|
| So, being a ham, (N0YMV) I thought I'd check out the only
other remaining
| users of TTY equipment for suggestions. Modify that by
the subgroup of that
| which uses DSP and it dawned on me to ask on HFSIG for
suggestions.
|
| Well? :) 45.45 baud can't take too much CPU to
decode/encode. Simple
| CODECs for voice band are easy, so a DSP approach would be
possible, or can
| someone suggest a cheap chip (still in production,
hopefully) that does
| 45.45 and 50 baud? BAUDOT is a SW issue that doesn't
bother me.
|
| Info on the tones and some of TTY in general are available
from
| http://tap.gallaudet.edu/tty.htm
|
| Well, any suggestions are welcome, leave it on the list if
you feel it
| general purpose enough, otherwise, personal is probably
better.
|
| Oh, the disclaimer. I have no business interest in
this--I'm doing it for
| the normal 'gee wiz' reason. If there is money made on
it, I'll be
| suprised. Heck, I see this being an article in QST or
some other
| publications and PCBs from Far Circuits kind of thing. I
don't speak for
| Aerial Communications, etc.
|
| Cheers,
| David N0YMV
|
| ---
| You are currently subscribed to hfsig as:
KBERLAND@IX.NETCOM.COM
| To unsubscribe send a blank email to
leave-hfsig-4070F@lists.tapr.org
|

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: OT:SW to generate 45.45 and 50 baud

From: "Willmore, David" <WILD4@aerial1.com>
Date: Mon, 17 Apr 2000 14:04:21 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-78193-2000.04.17-14.05.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> A long time ago, I worked for a teleprinter company.
> At that time the TDD terminals used a special
> patented modem, the "Weitbrecht" modem or something
> like that. Are you trying to maintain compatibility
> with the existing TDD terminals, or are you going to
> break free and make an equivalent?

The current devices--as best I can tell--use a 'normal' RTTY kind of signal.
45.45 or 50 baud 1800 and 2x00 mark and space, no signal on idle, etc. kind
of encoding. Using 5 bit baudot for character space encoding. It doesn't
sound complex. I haven't heard the term "Weitbrecht" yet. Maybe I haven't
looked hard enough. I'm looking to make these compatible with existing
devices, nothing new and exciting. :)

Cheers,
David N0YMV

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: OT:SW to generate 45.45 and 50 baud

From: mwheatle@trsystems.com
Date: Mon, 17 Apr 2000 15:17:13 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-78197-2000.04.17-14.20.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A quick search for Weitbrecht+modem found the following:

www.amrad.org/hex/hex_tty.htm

Not a lot of detail but maybe a starting point.

moe,ae4jy

>The current devices--as best I can tell--use a 'normal' RTTY kind of
signal.
>45.45 or 50 baud 1800 and 2x00 mark and space, no signal on idle, etc. kind
>of encoding. Using 5 bit baudot for character space encoding. It doesn't
>sound complex. I haven't heard the term "Weitbrecht" yet. Maybe I haven't
>looked hard enough. I'm looking to make these compatible with existing
>devices, nothing new and exciting. :)

>Cheers,
>David N0YMV

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] HF Hts

From: dona@tridelta.com (Don Adams)
Date: Tue, 18 Apr 2000 13:36:35 -0400 (EDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-78423-2000.04.18-12.35.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

To change the subject.......

Doing some traveling, size is everything. I've got
2 Alinco DJ-C1 and DJ-C4, 2m and 440 credit
card radios. They literally fit in my Daytimer. Even
with only 300mw, they work well.

Years ago (maybe 10 - 15) a friend of mine bought
some mil? HF HTs. SSB for 10m.

I thought someone made a dual or triband
radio..something like 15m and 6m. Maybe ADI
did.

I saw Cherokee made a 11m SSB Ht that could
be converted to 10m, AES had some but they
are gone and I can't find any.

Another one I found for 10m
is Eagle HT. The spelunkers looked at this for a
transverter down to 87Khz. This radio is about $180
but it's a pain to tune.(Japanese ergonomics)

Anyhow does anyone know anything about any HF HTs?

over...Don wa8qzz

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

May 2000

Original source file: hfsig.0005
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0005

1. [hfsig] PC-ALE ver G

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Mon, 01 May 2000 14:07:47 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-81000-2000.05.01-08.10.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Folks,

Although this is not really Amateur Radio, for those interested
the latest version of my Win95/98/NT ALE software is available
on my website.

http://www.chbrain.dircon.co.uk/pcale.html

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Pack*BASH dinner at Dayton Hamvention 2000

From: John Ackermann <jra@febo.com> (by way of Greg Jones)
Date: Thu, 4 May 2000 14:27:08 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-81730-2000.05.04-14.34.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dayton Activities

Attending the 2000 Dayton Hamvention? Then don't miss out on PACK*BASH!

What?
        An event for the digitally-inclined ham, featuring:
        * Buffet dinner
        * Keynote Address: "Amateur Radio and Submarine NR-1"
           by CDR Chas Richard, W4HFZ, USN
        * TAPR special interest group meetings
        * "Birds of a Feather" gatherings

When?
        Friday evening, May 19, 2000
        Doors open at 7:00 pm; dinner served at 7:30 pm
        Speaker and meetings after dinner

Where?
        NCR "Sugarcamp" Conference Center, 101 W. Schantz Ave. --
        South of downtown Dayton, just west of Main St. (Rt 48).
        Maps available on the TAPR web site (www.tapr.org) or at the
        TAPR booth.

How?
        Dinner requires advance registration and payment through TAPR.
        Tickets will be available at the TAPR booth on Friday, though
        we strongly encourage registration <before> Hamvention. The cost
        is $25.00 per person, tax and tip included.

        All amateurs are welcome to attend, enjoy the speaker, and
        particpate in the meetings, although only those purchasing a
dinner
        can eat.

        To register, contact:
        PACK*BASH
        c/o TAPR
        8987-309 E. Tanque Verde Road #337
        Tucson, AZ   85749-9399

        Phone: (940) 383-0000
        Fax: (940) 566-2544
        Internet: tapr@tapr.org

```
        Visa/Mastercard Accepted

Who?
        PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet
Radio,
        the national leader in digital communication -- and the Miami
        Valley FM Association, Dayton's packet radio club.

For more information (including maps), go to
http://www.tapr.org/tapr/html/dayton.html, or send email to
tapr@tapr.org.
You can request information via packet radio at BASH@W8APR.#DAY.OH.USA.N
OAM.

--
John Ackermann   N8UR
Dayton, Ohio, USA
jra@febo.com --  http://www.febo.com


---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
```

3. [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000

```
From: DuBose <dubose@texas.net>
Date: Thu, 04 May 2000 21:08:39 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-81819-2000.05.04-21.05.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Wish I could attend.

I hope some of you guys will put your heads together and come up with a
software HF modem  that will run at least 2400 BPS and will run on MS,
Linux, Mac, etc OSs.

Walt

"John Ackermann (by way of Greg Jones)" wrote:

> Dayton Activities
>
> Attending the 2000 Dayton Hamvention?  Then don't miss out on PACK*BASH!
>
> What?
>         An event for the digitally-inclined ham, featuring:
>         *  Buffet dinner
>         *  Keynote Address:  "Amateur Radio and Submarine NR-1"
>            by CDR Chas Richard, W4HFZ, USN
>         *  TAPR special interest group meetings
>         *  "Birds of a Feather" gatherings
>
> When?
>         Friday evening, May 19, 2000
>         Doors open at 7:00 pm; dinner served at 7:30 pm
>         Speaker and meetings after dinner
>
> Where?
>         NCR "Sugarcamp" Conference Center, 101 W. Schantz Ave. --
>         South of downtown Dayton, just west of Main St. (Rt 48).
>         Maps available on the TAPR web site (www.tapr.org) or at the
>         TAPR booth.
>
> How?
>         Dinner requires advance registration and payment through TAPR.
>         Tickets will be available at the TAPR booth on Friday, though
>         we strongly encourage registration <before> Hamvention.  The cost
>         is $25.00 per person, tax and tip included.
>
>         All amateurs are welcome to attend, enjoy the speaker, and
>         particpate in the meetings, although only those purchasing a
> dinner
>         can eat.
>
>         To register, contact:
>         PACK*BASH
>         c/o TAPR
```

> 8987-309 E. Tanque Verde Road #337
> Tucson, AZ 85749-9399
>
> Phone: (940) 383-0000
> Fax: (940) 566-2544
> Internet: tapr@tapr.org
>
> Visa/Mastercard Accepted
>
> Who?
> PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet
> Radio,
> the national leader in digital communication -- and the Miami
> Valley FM Association, Dayton's packet radio club.
>
> For more information (including maps), go to
> http://www.tapr.org/tapr/html/dayton.html, or send email to
> tapr@tapr.org.
> You can request information via packet radio at BASH@W8APR.#DAY.OH.USA.N
> OAM.
>
> --
> John Ackermann N8UR
> Dayton, Ohio, USA
> jra@febo.com -- http://www.febo.com
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

--
Please view The DuBose Home Page at URL: http://dubose.home.texas.net

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000 (2400bps)

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Fri, 05 May 2000 08:46:15 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-81896-2000.05.05-02.49.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

DuBose wrote:
>
> Wish I could attend.
>
> I hope some of you guys will put your heads together and come up with a
> software HF modem that will run at least 2400 BPS and will run on MS,
> Linux, Mac, etc OSs.
>
> Walt
>

Well I stopped working on my Stanag modems after the DCC last year.

I found a good paper on modified root Kalman channel equalizers that
gives you the pseudo code to implement one but I was going to try using
the approach given in the DCC paper instead.

There is a big demand for these modems from utility listeners by the way,
I regularly get at least one email a day asking whether anyone has done
one.

- Charles

(At Dayton in Spirit!)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: STANAG 5066 Annex G

From: "Bruno Haineault" <bhaineault@home.com>
Date: Sat, 6 May 2000 18:46:49 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-82113-2000.05.06-20.56.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here is one link to a description on the standard. The waveform should be
similar to MIL-STD-188-110B

http://www.nctimes.net/~preynolds/#PP

Bruno Haineault,
Oceanside, California

----- Original Message -----
From: "Alexander Kurpiers" <a.kurpiers@uet.tu-darmstadt.de>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Tuesday, April 11, 2000 06:47
Subject: [hfsig] STANAG 5066 Annex G

> Hi!
>
> Does anybody of you have the specification for the new 9k6 waveforms
> (should be in Stanag 5066 Annex G). There was a link listed on a web
> page, unfortunatly the page it pointed to is gone...
>
>
> Regards,
>
> Alexander
>
> --
> Alexander F. Kurpiers | Voice: +49-6151-162369
> Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
> Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
> D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: STANAG 5066 Annex G

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Mon, 08 May 2000 17:10:00 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-82482-2000.05.08-11.10.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alexander Kurpiers wrote:
>
> Hi!
>
> Does anybody of you have the specification for the new 9k6 waveforms
> (should be in Stanag 5066 Annex G). There was a link listed on a web
> page, unfortunatly the page it pointed to is gone...
>
> Regards,
>
> Alexander
>
> --
> Alexander F. Kurpiers | Voice: +49-6151-162369
> Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
> Merckstrasse 25 | EMail: a.kurpiers@uet.tu-darmstadt.de
> D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

Alex,

If you have not got the details, I may be able to help in a couple of days
it depends on whether the 9k6 waveform has been de-classified yet. Someone
is checking for me.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000

From: Eduardo Jacob <jtpjatae@bi.ehu.es>
Date: Mon, 08 May 2000 18:29:59 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-82484-2000.05.08-11.32.45--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I hope some of you guys will put your heads together and come up with a
>software HF modem that will run at least 2400 BPS and will run on MS,
>Linux, Mac, etc OSs.

We are waiting for Bob's Stanag 4529 code for Linux. I think he
was still waiting for some non-technical issue.

Eduardo/EA2BAJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Mon, 8 May 2000 11:41:00 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-82487-2000.05.08-11.44.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I hope he comes through with it...that will be a great addition to our
arsenal.

My personal goal is to see you knowledge individuals get a really good sound
card/software modem going in Linux and the ability to run at least SMTP on
HF. Of course a chat mode at higher speeds would also be great. Then those
of us who are technical leaches will be able to grab on to some really neat
technology.

Walt/K5YFW

-----Original Message-----
From: Eduardo Jacob [mailto:jtpjatae@bi.ehu.es]
Sent: Monday, May 08, 2000 11:30 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000

>I hope some of you guys will put your heads together and come up with a
>software HF modem that will run at least 2400 BPS and will run on MS,
>Linux, Mac, etc OSs.

We are waiting for Bob's Stanag 4529 code for Linux. I think he
was still waiting for some non-technical issue.

Eduardo/EA2BAJ

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Mon, 08 May 2000 18:00:00 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-82492-2000.05.08-12.00.04--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

DuBose Walt GS-12 AETC CONS/LGCA wrote:
> My personal goal is to see you knowledge individuals get a really good sound
> card/software modem going in Linux and the ability to run at least SMTP on

Hello Walt,

That reminds me, I noticed that a company (can't remember the name) but there is
a link to them
on the Ten-Tec page will be releasing a Linux control program for the Pegasus.

The Pegasus can support up to 8khz wide SSB so it should be ideal for the
military modems
that want approx 3khz bandwidth.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Mon, 8 May 2000 12:58:17 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "'Cactus Charlie'" <habitat@electrotex.com>,
"'Charles H Brain'"
 <chbrain@dircon.co.uk>
Message-ID: <LYR4070-82500-2000.05.08-13.01.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles,

I just got back from looking at the site and the only thing I saw was source
code developed on C++ and for Win32 App. I do hope someone will convert it
to run the Pegasus on a Linux OS platform.

Walt/K5YFW

-----Original Message-----
From: Charles H Brain [mailto:chbrain@dircon.co.uk]
Sent: Monday, May 08, 2000 12:00 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000

DuBose Walt GS-12 AETC CONS/LGCA wrote:
> My personal goal is to see you knowledge individuals get a really good
sound
> card/software modem going in Linux and the ability to run at least SMTP on

Hello Walt,

That reminds me, I noticed that a company (can't remember the name) but
there is
a link to them
on the Ten-Tec page will be releasing a Linux control program for the
Pegasus.

The Pegasus can support up to 8khz wide SSB so it should be ideal for the
military modems
that want approx 3khz bandwidth.

- Charles

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Mon, 08 May 2000 20:20:15 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-82517-2000.05.08-14.20.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

DuBose Walt GS-12 AETC CONS/LGCA wrote:
>
> Charles,
>

> I just got back from looking at the site and the only thing I saw was source
> code developed on C++ and for Win32 App. I do hope someone will convert it
> to run the Pegasus on a Linux OS platform.
>
> Walt/K5YFW

It is a third party developer, they do a control program for the RX320 and they
say it will soon control
the Pegasus as well.

The URL is

http://www.dxtra.com

However when I tried to access it just now I got a refused message. It was fine
last week!

- Chas

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] HF Industries association

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Mon, 08 May 2000 20:31:50 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-82521-2000.05.08-14.32.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If anyone is interested they have moved to:

http://www.hfindustry.com

There are some powerpoint presentations on 9k6 HF modems
linked to the page. I have not had a chance to view them yet.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 8 May 2000 22:04:00 -0400 (EDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-82587-2000.05.08-21.05.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >I hope some of you guys will put your heads together and come up with a
> >software HF modem that will run at least 2400 BPS and will run on MS,
> >Linux, Mac, etc OSs.

If anyone wants them, I bought 5 of those Harris 39 tone HF modems (look
new in the box) They do 2400 baud. Cost $80,000 each new. I got em for
$100, but I can see that I will never get around to using them...

de WB4APR, Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Digital Speech

From: Trevor.Hawkins@marconicomms.com
Date: Wed, 10 May 2000 13:15:39 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-82958-2000.05.10-10.06.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Charles,

I hear you're giving a presentation on Digital Speech at UoS Guildford at the
end of July.
On which day will you be there ?

Trevor

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: HF Industries association

From: "Hector Efren Mora A." <hmora@atenea.ucauca.edu.co>
Date: Wed, 10 May 2000 17:53:31 -0500 (COT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-83016-2000.05.10-17.56.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

estoy buscando informacion para PLANEAR Y DISE~NAR un sistema de
comunicacion de datos
entre dos ciudades de colombia(bogota-leticia o popayan- san andres
islas), via HF.

SI ME PUEDEN AYUDAR LES AGRADECERIA MUCHISIMO

ATT: HECTRO MORA
     ESTUDIANTE DE ULTIMO SEMESTR DE INGENIERIA ELECTRONICA
     UNIVERSIDAD DEL CAUCA (COLOMBIA)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: HF Industries association

From: "fbergeret" <fbergeret@ges.fr>
Date: Thu, 11 May 2000 11:57:15 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-83137-2000.05.11-05.02.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Buenas Tardes amigo Hector,

Mira a las paginas sigiente :
http://www.ges.fr/Export/SYSTEM600DATAVOICE.htm
http://www.ges.fr/Export/CRISTAL_Logiciel.htm

Muy attentamente.

François BERGERET / F6HQZ

----- Message d'origine -----
De : Hector Efren Mora A. <hmora@atenea.ucauca.edu.co>
À : TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Envoyé : jeudi 11 mai 2000 00:53
Objet : [hfsig] Re: HF Industries association

>
>
> estoy buscando informacion para PLANEAR Y DISE~NAR un sistema de
> comunicacion de datos
> entre dos ciudades de colombia(bogota-leticia o popayan- san andres
> islas), via HF.
>
> SI ME PUEDEN AYUDAR LES AGRADECERIA MUCHISIMO
>
>
> ATT: HECTRO MORA
>   ESTUDIANTE DE ULTIMO SEMESTR DE INGENIERIA ELECTRONICA
>   UNIVERSIDAD DEL CAUCA (COLOMBIA)
>
>
>

>
>
> ---
> You are currently subscribed to hfsig as: fbergeret@ges.fr
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] interfacing HF transceiver ic-707

From: "Joao Cristovao" <jp_cristovao@email.com>
Date: Fri, 12 May 2000 17:29:1
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-83421-2000.05.12-17.30.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello every one ,

I need the commands to control a ICOM transceiver ic-707 by computer; can
any one tell me where to get them ?! I've tryed the local ICOM supplier but
they didn't help me.

Tanks in advance,

JPC.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] Spectran beta 3, build 262

From: Alberto di Bene <dibene@usa.net>
Date: Tue, 16 May 2000 12:08:39 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84204-2000.05.16-05.12.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The version beta 3, build 262 of Spectran is now available at the URL :
  http://www.weaksignals.com

It is a spectral analysis software, still in beta, expecially tailored for
EME and VLF work. Freeware.

Alberto   I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] Re: Spectran beta 3, build 262

From: Johan Forrer <forrerj@peak.org>
Date: Tue, 16 May 2000 08:16:51 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84247-2000.05.16-10.18.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Alberto, Good work!

73

Johan, KC7WW

On Tue, 16 May 2000, Alberto di Bene wrote:

> The version beta 3, build 262 of Spectran is now available at the URL :
>   http://www.weaksignals.com
>
> It is a spectral analysis software, still in beta, expecially tailored for
> EME and VLF work. Freeware.
>

> Alberto   I2PHD
>
>
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: hfsig digest: May 16, 2000

From: Mark Murphy <xman@patriot.net>
Date: Thu, 18 May 2000 18:31:08 -0400 (EDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84700-2000.05.18-17.33.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm a newbiw to this group. I would like to know what hardware
configuration would one have to have to run this Spectran software. It
looks really cool and I would like to get involved using this software.
Also were could I obtain the hardware.

Thanks,
-- Murph

On Wed, 17 May 2000, TAPR HF Special Interest Group digest wrote:

> TAPR HF Special Interest Group Digest for Tuesday, May 16, 2000.
>
> 1. Spectran beta 3, build 262
> 2. Re: Spectran beta 3, build 262
>
> --
>
> Subject: Spectran beta 3, build 262
> From: Alberto di Bene <dibene@usa.net>
> Date: Tue, 16 May 2000 12:08:39 +0200
> X-Message-Number: 1
>
> The version beta 3, build 262 of Spectran is now available at the URL :
>   http://www.weaksignals.com
>
> It is a spectral analysis software, still in beta, expecially tailored for
> EME and VLF work. Freeware.
>
> Alberto   I2PHD
>
>
>
> --
>
> Subject: Re: Spectran beta 3, build 262
> From: Johan Forrer <forrerj@peak.org>
> Date: Tue, 16 May 2000 08:16:51 -0700 (PDT)
> X-Message-Number: 2
>
>
> Thanks Alberto, Good work!
>
> 73
>
> Johan, KC7WW
>
>
> On Tue, 16 May 2000, Alberto di Bene wrote:
>
> > The version beta 3, build 262 of Spectran is now available at the URL :
> >   http://www.weaksignals.com
> >
> > It is a spectral analysis software, still in beta, expecially tailored for
> > EME and VLF work. Freeware.
> >
> > Alberto   I2PHD
> >
> >

> >
> > ---
> > You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> >
>
>
>
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to hfsig as: xman@patriot.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] Re: hfsig digest: May 16, 2000

From: Alberto di Bene <dibene@usa.net>
Date: Fri, 19 May 2000 10:26:01 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84778-2000.05.19-03.29.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark,
            no need for any specialized hardware. Just a Pentium-class PC
(a fast 486 could suffice, with limitations) with a sound card, Win 9x or
Windown NT4, SP3+ and, of course, the correct drivers for the sound
card you use. I have reports that it works also on Win 2000 and Windows
Millennium Edition, but no personal experience on these opsys.

Then you simply feed the audio output of the receiver into the line input
of the sound card, having previously correctly set the Windows mixer.
This last step will be done for you in the next revision of the program.

My personal experience is that the use of an isolation audio transfomer in this
audio path between the RX and the PC is of great help to reduce the
noise generated by the PC that can enter the RX.

When I find the time, I will write also a Readme file....

Enjoy,
Alberto   I2PHD

Mark Murphy wrote:

> I'm a newbiw to this group. I would like to know what hardware
> configuration would one have to have to run this Spectran software. It
> looks really cool and I would like to get involved using this software.
> [snip]

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

22. [hfsig] HELP TS 530S

From: dominique.ferrand@st.com
Date: Fri, 19 May 2000 14:26:14 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84806-2000.05.19-09.41.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good morning

 Please my driver 12BY7A and MY final power are breack . I search the
schematic RF UNIT (X44-1360-01) of manuel

TKS 73 F6EPW Dominique

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] Cheapest Computer Controled Receiver

From: "John Roberts" <johnr@ece.jhu.edu>
Date: Sat, 20 May 2000 01:21:54 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84923-2000.05.20-00.24.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I would really like a computer-controlled receiver for HF to play with. I'm
on a budget so I'm wondering what the cheapest receiver is that I can buy. I
don't care if it has knobs or a display; just as long as it can be
controlled via RS232.

HF would be fine, but of course I would really get excited about something
that could do 500 kHz to 2 GHz.

Also, it would be nice to have a transceiver, but at this point I'll live
with RX only.

I see that the TenTec PEGASUS HF Transceiver is $900.

Thanks!
John

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Re: Cheapest Computer Controled Receiver

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Sat, 20 May 2000 07:07:25 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84950-2000.05.20-01.08.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Roberts wrote:
>
> Hi,
>
> I would really like a computer-controlled receiver for HF to play with. I'm
> on a budget so I'm wondering what the cheapest receiver is that I can buy. I

How about the RX320 from TenTec, it is pretty much a receive version of the
Pegasus and it is about $300 factory direct.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

25. [hfsig] Re: Cheapest Computer Controled Receiver

From: ds@purdue.edu
Date: Sat, 20 May 2000 10:06:36 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84985-2000.05.20-09.09.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is also the Icom PCR-1000. It covers 100 khz up to 1.3 Ghz in 1 Hz steps,
with selectable (AF) filters and such. It's fairly sensitive on HF, although it
probably doesn't do as well as the RX320 does if you're interested in only HF.
It's also available around the $350 dollar mark at common ham stores.
Here are the features from the www.icomamerica.com webpage:

Wideband Coverage:100 kHz - 1.3 GHz*
     All Mode: AM, FM, WFM, SSB, CW
     Tunable Bandpass Filters for VHF/UHF bands
     Unlimited Number of Memory Channels
     Digital Auto Frequency Control (AFC) Circuit to compensate for frequency
drift in FM mode
     Auto Mode Function: you input a frequency, the IC-PCR1000 selects the
correct mode
     Real-Time Bandscope
     IF Shift
     Voice Scan Control (VSC) Function
     High Performance PLL Circuit

S-Meter Squelch
Large Selection of Tuning Steps Available
Noise Blanker
A Variety of Scans
Tone Squelch
Optional UT-106 DSP
RF Attenuator (20 dB)
Automatic Gain Control (AGC) Function for SSB, CW and AM Modes
External Speaker Level Converter

A word of caution though, I think the icom control program sucks, so I use
an excellent win32 program for it available as shareware at

http://www.mahy.demon.co.uk/

It really takes advantage of all of the PCR-1000 features and extends the
functionality by providing things like a spectrum analyzer mode and many
recording and search features.

73,
Dave

On 20-May-2000 Charles H Brain wrote:
> John Roberts wrote:
>>
>> Hi,
>>
>> I would really like a computer-controlled receiver for HF to play with. I'm
>> on a budget so I'm wondering what the cheapest receiver is that I can buy. I
>
> How about the RX320 from TenTec, it is pretty much a receive version of the
> Pegasus and it is about $300 factory direct.
>
> - Charles
>
> ---
> You are currently subscribed to hfsig as: ds@purdue.edu
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
David Schick, W9OFA

E-Mail: ds@purdue.edu
Date: 20-May-2000
Time: 09:57:10

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

26. [hfsig] Re: Cheapest Computer Controled Receiver

From: "Jack Taylor" <n7oo@theriver.com>
Date: Sat, 20 May 2000 08:00:30 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84986-2000.05.20-09.10.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A used TS-440 transceiver with the RS-232 option may fill the bill. These
can be had for plus or minus $500. Another possibility is the WinRadio.
The WinRadio is fabricated onto a plug-in ISA card and covers the approx
range from 500 KHz to 1.5 GHz. Great for scanning HF/VHF/UHF channels,
there's optional software available for decoding various digital formats.
The supplied software has a spectrum analyzer application which is neat.
You can download the software from the WinRadio site and give it a try on
your computer without actually purchasing the card. Price is around $450.

73 de Jack

-----Original Message-----
From: John Roberts <johnr@ece.jhu.edu>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Date: Friday, May 19, 2000 11:22 PM
Subject: [hfsig] Cheapest Computer Controled Receiver

>Hi,
>

>I would really like a computer-controlled receiver for HF to play with. I'm
>on a budget so I'm wondering what the cheapest receiver is that I can buy.
I
>don't care if it has knobs or a display; just as long as it can be
>controlled via RS232.
>
>HF would be fine, but of course I would really get excited about something
>that could do 500 kHz to 2 GHz.
>
>Also, it would be nice to have a transceiver, but at this point I'll live
>with RX only.
>
>I see that the TenTec PEGASUS HF Transceiver is $900.
>
>Thanks!
>John
>
>
>---
>You are currently subscribed to hfsig as: n7oo@theriver.com
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

27. [hfsig] Re: Cheapest Computer Controled Receiver

From: "Laurence A Bay" <labay@zebra.net>
Date: Sat, 20 May 2000 09:33:27 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84991-2000.05.20-09.38.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have a TS450, with manuals, including one for external controls.

My question: Is there public-domain software that will run this from W98?

Thanks

-Larry
W1DOY

----- Original Message -----
From: "Jack Taylor" <n7oo@theriver.com>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Saturday, May 20, 2000 9:00 AM
Subject: [hfsig] Re: Cheapest Computer Controled Receiver

> A used TS-440 transceiver with the RS-232 option may fill the bill. These
> can be had for plus or minus $500. Another possibility is the WinRadio.
> The WinRadio is fabricated onto a plug-in ISA card and covers the approx
> range from 500 KHz to 1.5 GHz. Great for scanning HF/VHF/UHF channels,
> there's optional software available for decoding various digital formats.
> The supplied software has a spectrum analyzer application which is neat.
> You can download the software from the WinRadio site and give it a try on
> your computer without actually purchasing the card. Price is around $450.
>
> 73 de Jack
>
> -----Original Message-----
> From: John Roberts <johnr@ece.jhu.edu>
> To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
> Date: Friday, May 19, 2000 11:22 PM
> Subject: [hfsig] Cheapest Computer Controled Receiver
>
>
> >Hi,
> >
> >I would really like a computer-controlled receiver for HF to play with.
I'm
> >on a budget so I'm wondering what the cheapest receiver is that I can
buy.
> I
> >don't care if it has knobs or a display; just as long as it can be
> >controlled via RS232.

> >
> >HF would be fine, but of course I would really get excited about
something
> >that could do 500 kHz to 2 GHz.
> >
> >Also, it would be nice to have a transceiver, but at this point I'll live
> >with RX only.
> >
> >I see that the TenTec PEGASUS HF Transceiver is $900.
> >
> >Thanks!
> >John
> >
> >
> >---
> >You are currently subscribed to hfsig as: n7oo@theriver.com
> >To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> >
> >
>
>
> ---
> You are currently subscribed to hfsig as: LABAY@ZEBRA.NET
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

28. [hfsig] Tired of the 9 to 5 Yet?

From: offshore1444@yahoo.com
Date: Sun, 14 May 2000 21:40:38 +0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85193-2000.05.21-17.27.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ladies and Gentlemen,

     We thought this might be of interest to you because we received your commercial email, or you were referred to us as someone interested in business opportunities. WE PROMPTLY HONOR ALL REMOVE REQUESTS. To be removed from all future mailings, please reply with REMOVE in the subject heading

     Do you have the desire to make $2000 to $5000 PLUS PER WEEK, beginning almost immediately? How does $10,000 TO $20,000 PLUS PER MONTH, and a realistic STRONG SIX FIGURES this year sound? And, how about generating all of this by just sharing information?

     This is NOT, Lotions, Potions, Pills, Water Filters, Shopping Clubs, Long Distance Services. No Hype, No Meetings, No MLM! There Is No One Else Doing What We're Doing!

    If you can bring desire and an honest effort to the table, we can show you how to NEVER WORRY ABOUT MONEY AGAIN! Opportunity is truly knocking! To find out more, call Toll Free.

                                                    1-800-636-6773 ext 3886

God bless

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

29. [hfsig] RE: Tired of the 9 to 5 Yet? NO!!!

From: Mastenbrook Gary-G13216 <Gary.Mastenbrook@motorola.com>
Date: Mon, 22 May 2000 07:58:35 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85277-2000.05.22-08.00.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just an fyi, that I sent along this posting to abuse@yahoo.com. However, I expect that the return email address was forged, so there will likely be little they can do. Another case for moderation I'm afraid...

73's

Gary

Gary Mastenbrook, Product Visioneering, Motorola, Inc.
50 E. Commerce Drive, Schaumburg, IL 60173
Email: g13216@email[anti-spam_remove_brackets].mot.com
Work Home Page: http://www.mot.com/telematics
Personal Home Page: http://www.qsl.net/n8dmt

-----Original Message-----
From: offshore1444@yahoo.com [mailto:offshore1444@yahoo.com]
Sent: Sunday, May 14, 2000 11:41 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Tired of the 9 to 5 Yet?

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

30. [hfsig] Modems

From: "Gregory Klassen" <gregoryklassen@home.com>
Date: Mon, 29 May 2000 10:29:23 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87204-2000.05.29-10.27.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob,
Are you still interested in selling two modems. The last e-mail I sent you
I had requested your address so I could come by and pick up them up (and pay
you); but I don't recall hearing back from you.

Let me know.
Thanks,
Greg Klassen
----- Original Message -----
From: "Bob Bruninga" <bruninga@nadn.navy.mil>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Monday, May 08, 2000 10:04 PM
Subject: [hfsig] Re: Pack*BASH dinner at Dayton Hamvention 2000

> > >I hope some of you guys will put your heads together and come up with a
> > >software HF modem that will run at least 2400 BPS and will run on MS,
> > >Linux, Mac, etc OSs.
>
> If anyone wants them, I bought 5 of those Harris 39 tone HF modems (look
> new in the box) They do 2400 baud. Cost $80,000 each new. I got em for
> $100, but I can see that I will never get around to using them...
>
> de WB4APR, Bob
>
>
>
> ---
> You are currently subscribed to hfsig as: klassen@ieee.org
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

31. [hfsig] MSK vs PSK31 thoughts

From: mwheatle@trsystems.com
Date: Tue, 30 May 2000 09:38:36 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87389-2000.05.30-08.43.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

I got pulled into a discussion on whether Minimum Shift Keying,MSK (FSK31 as
called by some) is a better modulation method than PSK31 and would be
interested in hearing any other thoughts on the subject.

The advantage is of course the constant amplitude signal which alleviates
much of the transmitter linearity requirements of PSK31.

Generating the signal is no problem but I have reservations about detection
methods over an HF channel. The current scheme in my WinPSK program
utilizes the PSK31 amplitude variations to derive bit sync. Earlier
attempts with costas loops on multipath HF channels did not result in a lot
of success.

Does anyone have any experience implementing an MSK detector on an HF
channel? Is it an attainable objective?

Unless there are significant performance advantages, I would think it better
to educate operators to not overdrive their transmitters rather than jump
through hoops to implement a mode that is at best equal in performance to
PSK31.

Thanks,
Moe, AE4JY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

32. [hfsig] Re: MSK vs PSK31 thoughts

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Tue, 30 May 2000 18:04:13 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87412-2000.05.30-11.08.05--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

mwheatle@trsystems.com wrote:

> Does anyone have any experience implementing an MSK detector on an HF
> channel? Is it an attainable objective?
>
> Unless there are significant performance advantages, I would think it better
> to educate operators to not overdrive their transmitters rather than jump
> through hoops to implement a mode that is at best equal in performance to
> PSK31.

We all know that MSK has (like every binary FSK) a 3dB penalty compared
to coherently
demodulated PSK in AWGN if demodulated as orthogonal FSK. If it is
demodulated as CPM (more complex using ML sequence detection), the BER
is the same as for PSK. Unfortunatly the non-coherent DPSK demodulation
is about 3dB worse than PSK, but does not require coherent demodulation.
If we implement coherent PSK modulation (difficult due to the
time-variant channel but possible using ML sequence detection and
per-survivor-processing) we are better or equal than the ideal MSK
receiver. MSK can be demodulated using differential detection (basically
the same algorithm as for non-coherent DPSK), but then is another 3-4dB
worse then optimum coherent MSK - so same as non-coherent DPSK. Both
non-coherent DPSK and differentially detected MSK show an irreducable
BER due to the fading rate and I assume this is worse for MSK although I
did not find a reference for this.

Next thing is the spectrum. Unfortunatly PSK31 uses a not-so-well chosen
pulse for transmission, so
the PSD is very wide compared to the signaling rate and comparable to
that of MSK with the same speed.
But in general, if a better modulation pulse would be used the spectrum
would be a lot better than that
of MSK. Of course we could use a better MSK (eg. GMSK as used in GSM),
but still the spectrum is a bit wider.
The "real" spectrum at the output of the non-linear TX may be the same
for PSK and MSK though... So as MSK
is constant envelope and for PSK we need a back-off to get a narrow
spectrum MSK may be a bit better than PSK.

Basically I would say that PSK31 and an MSK version should work equally
well, but of course this should be
thouroughly checked by simulation/testing.

73' Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

33. [hfsig] Re: MSK vs PSK31 thoughts

From: Johan Forrer <forrerj@peak.org>
Date: Tue, 30 May 2000 08:27:57 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87407-2000.05.30-10.30.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Moe,

Theoretically, on paper at least, PSK should be better than MSK, but that
assumes a Gaussian channel. As you state, the HF channel often lets one
go to other extremes to make things work.

My 2 cents' worth.

Johan, KC7WW

On Tue, 30 May 2000 mwheatle@trsystems.com wrote:

> Hi all,
>
> I got pulled into a discussion on whether Minimum Shift Keying,MSK (FSK31 as
> called by some) is a better modulation method than PSK31 and would be
> interested in hearing any other thoughts on the subject.
>
> The advantage is of course the constant amplitude signal which alleviates
> much of the transmitter linearity requirements of PSK31.
>
> Generating the signal is no problem but I have reservations about detection
> methods over an HF channel. The current scheme in my WinPSK program
> utilizes the PSK31 amplitude variations to derive bit sync. Earlier
> attempts with costas loops on multipath HF channels did not result in a lot
> of success.
>
> Does anyone have any experience implementing an MSK detector on an HF
> channel? Is it an attainable objective?
>
> Unless there are significant performance advantages, I would think it better
> to educate operators to not overdrive their transmitters rather than jump
> through hoops to implement a mode that is at best equal in performance to
> PSK31.
>
>
> Thanks,
> Moe, AE4JY
>
>
>
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

34. [hfsig] Re: MSK vs PSK31 thoughts

From: Rob Glassey <robglassey@geocities.com>
Date: Wed, 31 May 2000 15:20:08 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87550-2000.05.30-22.21.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Generating the signal is no problem but I have reservations about
> detection methods over an HF channel. The current scheme in my WinPSK
> program utilizes the PSK31 amplitude variations to derive bit sync.
> Earlier attempts with costas loops on multipath HF channels did not
> result in a lot of success.
>
> Does anyone have any experience implementing an MSK detector on an HF
> channel? Is it an attainable objective?

OK, here's my ideas for implimenting a simple MSK detector:

Like DPSK, you are looking for phase change over one symbol period,
except of course MSK is +/- 90 degrees, whereas DPSK is 0 or 180
degrees.

Timing can be obtained simply by looking for zero crossings in
differential phase, which will occur half way between symbol timing
points whenever a state change occurs. This can be seen easily if you
draw the phase of the signal against time, where the phase is either a
ramp up or a ramp down at 90 degrees per symbol. At symbol sampling
points there will be a change in direction whenever the state changes,
and the differential phase from half a period before to half after will
be zero, while before and after this time the differrential phase will
be oppersite, ie a zero crossing in differential phase.

You then adjust your timing reference according to whether the zero
crossing was before or after the time it was expected. If you have a
measure of signal quality then the amount of adjustment can be related
to the quality of the signal at that time. Thus fades have little effect
on timing but good signals lock up quickly. For example you could
measure differential phase from the straddled timing point to the ones
before and after it and look at how close to 90 degrees they are.

Of course zero crossing detectors are not ideal but as a simple method
it wouldn't be too bad.

> The advantage is of course the constant amplitude signal which
> alleviates much of the transmitter linearity requirements of PSK31.

Constant amplitude does more than just clean up the band, it allows a
higher average power relative to the peak power (no symbol shaping) and
allows the transmitter to be driven at a higher power, so even though
detection sensitivity for DPSK and MSK is the same, average transmitted
power is improved by quite a few dB.

Any comments?

Rob, ZL2AKM

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

35. [hfsig] MFSK mode Piccolo 2000

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Wed, 31 May 2000 22:44:43 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "Johan Forrer KC7WW" <forrerj@peak.org>, "HFSIG" <hfsig@lists.tapr.org>,
        "Hell Reflector" <Hellschreiber@onelist.com>,
        "Hamish Moffatt VK3SB" <hamish@cloud.net.au>
Message-ID: <LYR4070-87593-2000.05.31-05.06.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Folks,

You will be aware that HF digital amateurs are interested in very robust
modes for long distance DX that do not consume excessive bandwidth. I have a
proposal that may be one such mode - but it needs testing. I don't believe
anyone has seriously tackled MFSK using a PC sound card.

I would like some time soon to make a serious attempt to revive an MFSK mode
(like Piccolo or Coquelet), but I plan to make some changes that will allow
the new mode to benefit from the many DSP advances we are now blessed with.

First, let me briefly summarise the historical modes (ignoring variants):

Piccolo, developed in the UK, is an eight tone synchronous mode, runs at 10
baud, using two "symbols" (tones) per character. It is used with a limited
ASCII character set and is capable of 100 WPM. Two extreme edge tones are

used for idle.

Coquelet, developed in Belgium, is a 12 tone (plus an idle tone) asynchronous system that operates at 13.333 baud, using two "symbols", a low and a high group. It uses CCITT No. 2 code, sending one of 8 low tones in the first interval (3 bits) and one of four high tones (2 bits) in the second interval. The result converts exactly into a 50 WPM RTTY signal for printing.

Now, what I envisage for the new "Piccolo 2000" mode:

An eight tone synchronous (bitstream) mode, running at ~8 or ~4 baud, using a single "symbol". This symbol would represent three bits. The mode would use G3PLX Varicode for efficiency and easy provision of an extended character set. At 8 baud (actually 128ms period) the mode would operate at about 30 WPM, or 15 WPM at the lower speed (256ms period).

Due to the bitstream nature, it would be possible to operate a convolutional code FEC system with R=1/2 and K=5 (like QPSK31), offering 15 WPM with higher robustness, although I doubt that this would be necessary. I propose that the tones should be centred on 1 kHz, 31.25 Hz apart, with raised cosine modulation, making the transmission about 250 Hz wide.

Probably the most important features I plan are these - for clock recovery, a phase locked loop operating on the signal envelope (as in PSK31), and for data demodulation, an FFT receiver similar in concept to Lionel's THROB.

At this point I should explain how the original Piccolo receiver worked, as the secret to the sensitivity and noise rejection of the mode resides in this concept. The receiver contains eight parallel filters (one per tone) with or without a preceding limiter. These filters have very high gain, in fact they saturate on noise in little more than two symbol periods. The Q is about 30. The filters are "quenched" or reset at the start of each period, and released to accumulate signal, ringing on noise. If a valid signal is present in one filter the amplitude will build up faster than the other filters, at a rate dependent on the Q, and at the end of the symbol period the following logic selects the biggest signal and the three data bits are decoded from it. The value of this "integrate and dump" concept is that the signal energy is integrated throughout the duration of the symbol period, giving high sensitivity, and the logic determines the correct value from the signal / noise ratio, since the other filter outputs represent noise energy. It is known that this technique is both extremely sensitive and noise immune. Soft decoding is also possible.

It is also known from a proof published by the Coquelet developers ACEC, that for a given error rate, the optimum number of symbols per character to give the best sensitivity in noise is somewhere around 1 - 2 symbols. They quote -11 dB S/N in 3 kHz at 1% errors with limiter. Both Piccolo and Coquelet use two symbols. My planned system uses one!

Now to what I need for the project to be successful:
==========

Look on this as an experiment, to find out (a) whether indeed this idea has merit, and (b) which techniques work best.

1. One or more demodulator designs. I think first that an FFT approach, like Lionel's THROB could be useful, although I have no understanding of how to synchronously accumulate the data in buckets for the duration of a symbol period. Secondly, modelling the Piccolo demodulator using FIR filters with interesting parameters might also be of interest. I can provide the details of the original.

2. Suggestions galore - tuning and waterfall displays, how to handle the wrong sideband (which I think is simply data out = 7 - data in!), AFC (is it necessary?), S/N meter, best sync system, any others?

3. Someone prepared to do background mathematical analysis to ensure that the chosen parameters are optimum.

4. A volunteer (My hero!) to do all the programming for PC and sound card. Preferably in C++ for Win95 to work on a low end Pentium.

I'm prepared to keep the specs, do the coordination, the documentation, the testing and the research.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

36. [hfsig] Re: MFSK mode Piccolo 2000

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Wed, 31 May 2000 12:07:37 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87607-2000.05.31-06.09.25--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Coombe Down wrote:
>
> Folks,
>
> 1. One or more demodulator designs. I think first that an FFT approach, like
> 4. A volunteer (My hero!) to do all the programming for PC and sound card.
> Preferably in C++ for Win95 to work on a low end Pentium.

Never volunteer for anything!

However, you might be interested in sliding FFTs (see page 43 of the green book).

They work on the principal that if the input to the FFT only changes one sample at
a time, to update the FFT output all that is required is to add the effect on the new sample
to each bin and remove the effect of the oldest sample from each bin.

The really neat thing is that you only have to update those bins that you want, so you could have
a 1024 point FFT and only update one bin.

I have used this very successfully on a couple of projects, one the 8ary FSK modem for my ALE software
and more recently as a multiband filter (for voicing decisions) in an experimental Vocoder I have
been working on.

I can supply some example code if anyone is interested. At start up you pre-compute the twiddles then
while running there is some really simple maths

```
        twiddles[n].re = cos(-2*PI*n/N);
        twiddles[n].im = sin(-2*PI*n/N);



        temp_real     = bin[n].re-old_sample+new_sample;
        temp_imag     = bin[n].im; // no imaginary part in this case
        bin[n].re    = (temp_real*twiddles[n].re) - (temp_imag*twiddles[n].im);
        bin[n].im    = (temp_real*twiddles[n].im) + (temp_imag*twiddles[n].re);
```

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

37. [hfsig] MFSK mode Piccolo 2000

From: mwheatle@trsystems.com
Date: Wed, 31 May 2000 10:17:41 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87640-2000.05.31-09.22.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Glad to see some interest stirred up here. Thanks for the MSK comments. It
confirms my thought that the MSK only advantage is on the transmit side and
no significant overall advantage over PSK31.

As for the new mode ideas I would be interested in getting involved though
I'm weak on the theory side and other job constraints may limit the amount
of time i can put into it. Am just a grunt engineer who when handed an
algorithm, goes and implements. Examples of recent endeavors---
www.qsl.net/ae4jy/
A couple questions:
1. What is the intended use of this mode? A better chat type mode or some
other data transfer mode.
2. What system characteristics make it better than say PSK31? Better weak
signal, better multipath, better power utilization,etc.

The main problem with PSK31 (other than the operator problems) seems to be
mutipath performance. There's a lot of high S/N signals that won't decode
due the doppler phase variations.

Possible concept expansion to address satellite modes with fast doppler
shift or maybe CW replacement for EME work?

73
moe ae4jy

>Now to what I need for the project to be successful:
>==================================
>Look on this as an experiment, to find out (a) whether indeed this idea has
>merit, and (b) which techniques work best.
>
>1. One or more demodulator designs. I think first that an FFT approach,
like
>Lionel's THROB could be useful, although I have no understanding of how to
>synchronously accumulate the data in buckets for the duration of a symbol
>period. Secondly, modelling the Piccolo demodulator using FIR filters with
>interesting parameters might also be of interest. I can provide the details
>of the original.
>
>2. Suggestions galore - tuning and waterfall displays, how to handle the
>wrong sideband (which I think is simply data out = 7 - data in!), AFC (is
it
>necessary?), S/N meter, best sync system, any others?
>
>3. Someone prepared to do background mathematical analysis to ensure that
>the chosen parameters are optimum.
>
>4. A volunteer (My hero!) to do all the programming for PC and sound card.
>Preferably in C++ for Win95 to work on a low end Pentium.
>
>I'm prepared to keep the specs, do the coordination, the documentation, the
>testing and the research.
>73,
>Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

38. [hfsig] Re: MFSK mode Piccolo 2000

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Wed, 31 May 2000 17:18:53 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87651-2000.05.31-10.21.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

mwheatle@trsystems.com wrote:

> The main problem with PSK31 (other than the operator problems) seems to be
> mutipath performance. There's a lot of high S/N signals that won't decode
> due the doppler phase variations.

It is possible to compensate the effects due to the time variations
(doppler spread)
with moderate efforts (ML detection and PSP) as long as the PSK symbols
do not overlap (ISI). This is not
very likely as the pulses have a duration of more than 30ms and the
multipath is usually <5ms.
Unfortunatly this is not implemented in any PSK31 demodulator I know of.

Regards,

Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

39. [hfsig] ML detection of PSK31

From: mwheatle@trsystems.com
Date: Wed, 31 May 2000 13:24:31 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87677-2000.05.31-12.29.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>It is possible to compensate the effects due to the time variations(doppler
spread)
>with moderate efforts (ML detection and PSP) as long as the PSK symbols do
not overlap (ISI). This >is not very likely as the pulses have a duration of
more than 30ms and the multipath is usually
> <5ms. Unfortunatly this is not implemented in any PSK31 demodulator I know
of.
>
>Regards,
>
>Alexander

Hi Alexander,
Define "moderate effort"! ;>)
Do you have any suggested books, papers, etc. that explain the
implementation of ML detectors? I actually attempted what i thought was an
ML detector in WinPSK but never found any significant improvement. The only
reference i have is a book by Yuri Okunev, "Phase and Phase Difference
Modulation in Digital Communications". The math overwelmed my feeble brain
but i did manage to implement some form of ML detector over 4 symbol times.
Am sure it was non-optimum and probably flat out wrong. It is partially
described in a technical paper on WinPSK "WinPSKTech10.pdf" at
http://www.qsl.net/ae4jy/oldwinpsk.htm.

Unfortunately, over the air tests by a few people was mostly anecdotal and
not very conclusive so I removed it from the latest code. Perhaps it should
be revisited.

thanks,
moe

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

40. [hfsig] Re: ML detection of PSK31

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Wed, 31 May 2000 19:49:31 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87678-2000.05.31-12.51.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

mwheatle@trsystems.com wrote:
>
> >It is possible to compensate the effects due to the time variations(doppler
> spread)
> >with moderate efforts (ML detection and PSP) as long as the PSK symbols do
> not overlap (ISI). This >is not very likely as the pulses have a duration of
> more than 30ms and the multipath is usually
> > <5ms. Unfortunatly this is not implemented in any PSK31 demodulator I know
> of.
> >
> >Regards,
> >
> >Alexander
>
> Hi Alexander,
> Define "moderate effort"! ;>)

This of course is always a matter of what you think is "moderate" ;-)

> Do you have any suggested books, papers, etc. that explain the
> implementation of ML detectors? I actually attempted what i thought was an
> ML detector in WinPSK but never found any significant improvement. The only
> reference i have is a book by Yuri Okunev, "Phase and Phase Difference
> Modulation in Digital Communications". The math overwelmed my feeble brain
> but i did manage to implement some form of ML detector over 4 symbol times.

> Am sure it was non-optimum and probably flat out wrong. It is partially
> described in a technical paper on WinPSK "WinPSKTech10.pdf" at
> http://www.qsl.net/ae4jy/oldwinpsk.htm.

I really like your paper! Some very interesting details of your
implementation...

I think the problem with your detector is that you assume that the
channel is not changing over 4 symbols (which
of course it does!). But the basic idea remains the same, you calculate
the phase reference over more
than the last symbol. To compensate the fading you can use eg. a linear
predictor. Of course you still have
the problem that your phase reference depends on the hard decisions you
have made on previous symbols.
Now comes the per-survivor-processing idea: you put the possible
sequences of symbols into a trellis and use the Viterbi algorithm to
find the most probable sequence of symbols. For every survivor path you
calculate the
new phase reference. So you have a phase reference for every state in
your trellis. So you look for that sequence of symbols that matches your
"idea" of the channel best. This works a lot better than "normal" DPSK
if the channel is changing faster (and it even compensates some
frequency error).
Of course you need the statistics of the channel for this but the
algorithm is not too sensitive... So you could use a set of different
linear predictors (for different SNR and different fading rate) and let
the operator chose...
After a few symbols you can adapt the predictor coefficients to the
"real" channel.

Reference eg.:
Vitetta, Taylor: "Maximum Likelihood Decoding of Uncoded and Coded PSK
Signal Sequences Transmitted
over Rayleigh Flat-Fading Channels". IEEE Trans. Commun COM-43(11), p
2750ff, 1995
Colavolpe et al.: "Linear predictive receivers for fading channels". IEE
El. Letters Vol.-43(13), p. 1289-1290, 1998

73' Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

41. [hfsig] Re: ML detection of PSK31

From: mwheatle@trsystems.com
Date: Wed, 31 May 2000 14:28:44 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87685-2000.05.31-13.33.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>This of course is always a matter of what you think is "moderate"

Well, sounds like a major undertaking for me. Learning new stuff gets
harder and harder with age. >(Too bad Dr. Suess didn't write communications
theory books!

The Yuri book didn't really deal with multipath and i think was aimed at
achieving coherent performance without phase locking to the carrier. At
least that's what i gathered from all the mess.

I need to hit the books before i can discuss this intelligently so won't
waste anymore BW here.
Thanks for the info.
73
moe

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

June 2000

Original source file: hfsig.0006
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0006

1. [hfsig] Re: MFSK mode Piccolo 2000

From: Phil Karn <karn@ka9q.ampr.org>
Date: Wed, 31 May 2000 23:42:29 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: forrerj@peak.org, Hellschreiber@onelist.com,
"hamish@cloud.net.au"
<LYR3433-87593-2000.05.31-05.06.37--KARN#QUALCOMM.COM@lists.tapr.org>
(coombedn@ihug.co.nz)
Message-ID: <LYR4070-87784-2000.06.01-01.45.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm really glad to see some interest in M-ary FSK. I've long thought
this is a mode worthy of amateur experimentation.

The big advantage of M-ary FSK for fading HF channels is its good
performance with a noncoherent demodulator. In noncoherent
demodulation, there is no expectation that the channel phase remains
constant from one symbol to the next. This is in contrast to coherent
BPSK where the receiver tries to determine the phase of the
unmodulated transmitter carrier over some relatively large number of
channel symbols; if the channel is fading that rapidly, i.e., its
coherence time is shorter than the carrier loop integration time,
everything falls apart.

Equivalently, a narrow carrier tracking loop will be thwarted by
a channel that imposes a lot of doppler spreading on the signal,
as the channel-induced modulation sidebands on the carrier will be
outside the loop bandwidth.

The one form of PSK that does work reasonably well on HF is DBPSK, or
differentially-coherent PSK, where the phase of each symbol is
compared with the one just before it. Now as long as the channel phase
remains reasonably stable across two symbol times, it will work.

Note that even noncoherent demodulators assume coherency within a
single symbol time; this is equivalent to assuming that the doppler
spreading is not so great as to spread the tone energy outside the
passband of the appropriate receiving tone filter. So even here there
is a lower limit on baud rate.

The classic RTTY terminal unit for ordinary binary (2-ary) FSK is an
example of a noncoherent demodulator, which is why they're commonly
used on HF. But 2-ary FSK is not particularly efficient because each
channel "tone" contains the energy of only one data bit. In M-ary FSK,
each channel "tone" contains the energy of several (log2 M, to be
exact) data bits, increasing the chance that it will be correctly
selected at the receiver. As M approaches infinity, M-ary FSK
approaches the Shannon limit of Eb/No = -1.6 with no further coding.
Unfortunately, this approach is rather slow, so additional FEC is a
good idea with realizable values of M.

>this concept. The receiver contains eight parallel filters (one per tone)
>with or without a preceding limiter. These filters have very high gain, in
>fact they saturate on noise in little more than two symbol periods. The Q is
>about 30. The filters are "quenched" or reset at the start of each period,
>and released to accumulate signal, ringing on noise. If a valid signal is
>present in one filter the amplitude will build up faster than the other
>filters, at a rate dependent on the Q, and at the end of the symbol period
>the following logic selects the biggest signal and the three data bits are
>decoded from it. The value of this "integrate and dump" concept is that the

A FFT will do exactly this, only it won't saturate unless you want it
to. And you don't, because this throws away soft decision
information.

>Due to the bitstream nature, it would be possible to operate a convolutional
>code FEC system with R=1/2 and K=5 (like QPSK31), offering 15 WPM with
>higher robustness, although I doubt that this would be necessary. I propose

I think it would be a really good idea to add convolutional FEC. PSK31
missed a real opportunity by allowing FEC only in QPSK mode; QPSK just
doesn't work very well at such low symbol rates, and that squanders
much of the advantage of the convolutional code. If PSK31 allowed FEC

with BPSK, it would work a lot better.

There's no need to scrimp on the code's strength, either. I have a k=7
r=1/2 Viterbi decoder implemented in MMX that runs at 2.1 megabits/sec
on a 400 MHz Pentium II -- far beyond that required for HF. The code
is on my webpage as part of my ACE decoder, http://people.qualcomm.com/karn/code/acedemod.

Interleaving would be a good idea too, as Viterbi decoders don't
behave well on fading channels without it. Here you have to trade off
between improved fade resistance (arguing for longer interleavers)
against delay (arguing for shorter interleavers).

Here's how you might apply soft decision Viterbi decoding to a M-ary
scheme. When you do your FFT, you don't just identify the frequency
bin with the greatest energy and discard all the others. You sum the
bin combinations that correspond to each bit making up the M-ary
symbol, and you use these to form soft-decision values for the Viterbi
decoder. For example, let's say you have 8-ary (8-tone) FSK, so each
tone transmits 3 bits encoded as follows:

b0	b1	b2	tone number
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	0	0	4
1	0	1	5
1	1	0	6
1	1	1	7

To determine the soft decision value for b0, you sum up the energies
in frequency bins 4,5,6 and 7 and subtract from that the sum of the
energies in bins 0, 1, 2, and 3. To determine the soft decision value
for b1, you add bins 2,3,6,7 and subtract bins 0, 1, 4, 5. And
similarly for b2: sum bins 1,3,5,7 and subtract bins 0,2,4,6.
See how this works, and why it's better?

Synchronization in both time and frequency is important for all these
HF modes. I think it should be possible for the demodulator program to
quickly and automatically acquire a signal anywhere in the receiver
passband. Careful tuning should not be required.

For synchronizing M-ary FSK I suggest Costas signals, developed for
sonar applications by the same guy who invented the Costas loop.
(Sonar is just acoustic radar, and radar design is all about the
design of synchronization signals).

Costas signals have good autocorrelation properties in both frequency
and time, and they're specifically designed for channels with lots of
dimensions in the signal space -- like M-ary FSK. M, the number of
"tones", is the number of orthogonal dimensions in the signal space.

An "orthogonal dimension" is just a fancy way to say you can make a
receiver filter for each signal that can, in theory, completely reject
the other signals. This is the case for M-ary FSK as long as the tone
spacing is at least the symbol (baud) rate.

I'm not sure there are any standard methods to generate Costas signals
other than brute force computer search. But that's good enough for our
purposes. Pick a length N for your Costas signal and generate all
possible sequences of M tones; this will give M^N possibilities. Then
examine each candidate for its autocorrelation properties in both
frequency and time. You want a sequence of tones that, when shifted in
either frequency or time (or both), has the minimum number of matches
with an unshifted copy of itself.

Once you find your Costas signal, you interleave it with the encoded
data. I.e., every Kth data symbol, you insert one symbol from the
Costas signal. The advantage of interleaving your sync signal into
the data is fade resistance. If the sync signal were just at the
beginning of the transmission, it could be taken out by a quick fade.

When you search for the Costas sync signal at the receiver, you just
pick every Kth symbol (I assume you know the symbol rate in
advance). Then you begin searching various frequency and time offsets
looking for a peak from the Costas sync signal correlator. Then you
try to decode the data; if this succeeds, great. If not, you can try
successively lesser peaks from the sync correlator until you succeed
or run out of time.

This implies that there is enough redundancy in the signal to know
with high reliability that you've decoded it correctly. A short
Viterbi decoded convolutional code is not enough by itself, so you'll
need to add a CRC or perhaps a Reed-Solomon block code. An RS code
with suitable parameters has the advantage of providing some
additional error correcting ability, which can help clean up residual
errors from the Viterbi decoder. These two codes are very commonly
combined in deep space channels, and I think they will also work well
on HF channels once the modulation is changed from BPSK to M-ary FSK.

Phil

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Q15X25 for Win95?

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Thu, 01 Jun 2000 08:40:47 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87790-2000.06.01-02.42.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello All,

Is there a version of Q15X25 that runs under Win95/98 etc.

I have had a request from an organization in Latin America
that is running an educational network over HF. They want
to use TCP/IP over HF and are looking for an inexpensive
solution.

They want to use ALE / TCP/IP and digital voice email and
they don't have many funds apparently.

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: Q15X25 for Win95?

From: Tomi Manninen OH2BNS <tpm@prkele.tky.hut.fi>
Date: Thu, 1 Jun 2000 12:26:29 +0300 (EETDST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87794-2000.06.01-04.29.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 1 Jun 2000, Charles H Brain wrote:

> Is there a version of Q15X25 that runs under Win95/98 etc.
>
> I have had a request from an organization in Latin America
> that is running an educational network over HF. They want
> to use TCP/IP over HF and are looking for an inexpensive
> solution.
>
> They want to use ALE / TCP/IP and digital voice email and
> they don't have many funds apparently.

I don't think there is. The only implementations I know of are the
original EVM/DSP4 code and my Linux/soundcard implementation. Wouldn't
Linux be even better if funds are a problem...?

Anyway I have been thinking about a windows port of my code. Maybe as a
Flexnet soundmodem driver so I wouldn't need to worry about the AX.25
stack. The problem is I don't have any windows programming experience so I
would need someone to point me to the right direction (if there is one
under windows...). Also commercial development tools are out of the
question...

--
Tomi Manninen   Internet: oh2bns@sral.fi
OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: MFSK mode Piccolo 2000

From: Alberto di Bene <dibene@usa.net>
Date: Thu, 01 Jun 2000 11:56:27 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87795-2000.06.01-04.59.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Phil Karn wrote:

> [snip]
> For synchronizing M-ary FSK I suggest Costas signals, developed for
> sonar applications by the same guy who invented the Costas loop.
> (Sonar is just acoustic radar, and radar design is all about the
> design of synchronization signals).
> [snip]

Phil,
do you have any Web reference for Costas signals ? TNX.
73
Alberto I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: Q15X25 for Win95?

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Thu, 01 Jun 2000 11:51:02 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87797-2000.06.01-05.52.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tomi Manninen OH2BNS wrote:

> I don't think there is. The only implementations I know of are the
> original EVM/DSP4 code and my Linux/soundcard implementation. Wouldn't
> Linux be even better if funds are a problem...?

O.K Tomi,

I will see what he wants, for the voice email there is a package available
from http://www.cybit.com that is not too expensive.

Unfortunately my ALE software is Windows only at present, it does incorporate
a data mode but that is very slow and wastes bandwidth.

I am slowly moving to 100% Linux development myself, but it will be a year or so
before I have anything suitable.

With all the politics in Amateur radio these days I am also starting to look
outside the hobby for exciting things to do.

I guess I will just have to tell him to come back in a year or so hi.

As far as Windows development is concerned, I think you will have to bite the bullet
and go commercial on that one. Microsoft have done a pretty good job of locking developers
into using their tools, especially if you want to use any of the newer features.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: MFSK mode Piccolo 2000

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 1 Jun 2000 19:40:49 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87801-2000.06.01-06.27.06--lyris.hfsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Charles,

Thanks for your response regarding my MFSK suggestion. I'm a signal processing beginner, and although I have heard of sliding FFT's I don't know anything about them at all. Also, what is the "green book" you refer to?

You have already done an 8ary FSK modem - was this an n-of-8, or one-of-8 design? I would live some more detail, as there seems little point in reinventing these things. What speed did it work at, and what sort of performance was achieved?

I presume you know exactly what I am after - using an FFT as combined filter and demodulator, followed by an 8 way integrate and dump circuit and a best of 8 decision. The aim is to produce a robust QRM immune and reasonably sensitive mode for long haul HF DX.

I thought raised cosine TX symbols would be the way to go, for good clock recovery, but I realise I have no idea how to match the receiver filter (the FFT) to the transmitted pulse. What is the filter characteristic of the FFT in that regard, and can it be tweaked?

How can I operate the FFT and following integrate and dump circuit together? Will there be a need to synchronise the FFT? I had presumed not, since there will be (hopefully) many FFT solutions per symbol.

I have yet to find a muggins to do the programming for me - it's well beyond my ability, but I am sure when the time comes I'll be in touch for more ideas.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Q15X25 for Win95?

From: Ken Wickwire <kwick@mitre.org>
Date: Thu, 01 Jun 2000 12:43:23 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87811-2000.06.01-07.47.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Chas. & all:

We (and others) have been sending straight TCP/IP over NVIS channels with NOS and MS-110A serial-tone modems for a couple of years as part of our on-air
eval program (just published a report on it). You need to pay careful attention to segment size and modem rate as channels change and of course u need to get
an MS-110A modem, but it works fairly well. Of course much better is a protocol like 1052 or 5066 over HF with translation to TCP/IP at the end points.

Ken

Charles H Brain wrote:
>
> Hello All,
>
> Is there a version of Q15X25 that runs under Win95/98 etc.
>
> I have had a request from an organization in Latin America
> that is running an educational network over HF. They want
> to use TCP/IP over HF and are looking for an inexpensive
> solution.
>
> They want to use ALE / TCP/IP and digital voice email and
> they don't have many funds apparently.
>
> - Charles G4GUO
>
> ---
> You are currently subscribed to hfsig as: KWICK@MITRE.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: MFSK mode Piccolo 2000

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Thu, 01 Jun 2000 14:27:29 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87818-2000.06.01-08.29.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Coombe Down wrote:
>
> Charles,
>
> Thanks for your response regarding my MFSK suggestion. I'm a signal
> processing beginner, and although I have heard of sliding FFT's I don't know
> anything about them at all. Also, what is the "green book" you refer to?
>

The green book is "Digital Signal Processing in Communications systems" by
Marvin E. Frerking ISBN 0-442-01616-6 Published by Van Nostrand Reinhold.
Like all good signal processing books it is nolonger printed, and VNR I believe are
now owned by someone else, but there are still copies available I think. This
book is one of the more frequent items mentioned on the sig.

> You have already done an 8ary FSK modem - was this an n-of-8, or one-of-8

It is a one of 8 design with 8ms symbols, it is the MIL-STD ALE modem.

Performance wise it meets the Standard, but that specifies probability of
linking rather than BER performance at different Eb/No. One thing I can say
is that the deeper the interleaving the better the system works.

As an aside, if you look at the results of testing of the new 9k6 HF modems
the difference in performance between the short interleaver and the long
interleaver is astounding.

> I presume you know exactly what I am after - using an FFT as combined filter
> and demodulator, followed by an 8 way integrate and dump circuit and a best
> of 8 decision. The aim is to produce a robust QRM immune and reasonably
> sensitive mode for long haul HF DX.

The discrete sliding FFT produces a complex output so you can calculate phase
and magnitude from that. In the example I gave the imaginary component of the
input sample was set to zero.

A G4 who's call I can remember has already used this type of FFT for a Piccolo
decoder, that was a few years ago, now. He used to subscribe to the list but
that was before everyone was unsubscribed a few years back.

>
> I thought raised cosine TX symbols would be the way to go, for good clock
> recovery, but I realise I have no idea how to match the receiver filter (the
> FFT) to the transmitted pulse. What is the filter characteristic of the FFT
> in that regard, and can it be tweaked?
>

There's the rub, I can't see how one would apply a non rectangular window to this
type of FFT. This is not the optimum way of solving this problem but is an approach
that probably requires the least processing. The ionosphere can screw with even the
best maths.

I suppose if one really wanted to be clever one could develop a Wavelet transform that
used raised cosine wavelets (I really don't know what I am talking about now).

But I guess, you could simply calculate the magnitude of each tone and then filter
that at baseband.

> will be (hopefully) many FFT solutions per symbol.

That is the beauty of this type of FFT you get an output for every input sample, i.e
it is continuous and it uses far less processing than doing a full FFT on each sample.
That is why it can be used as a filter.

On my modem I have an FFT that is the length of a symbol, I look at the output magnitude

after each sample, when the symbol is correctly aligned with the FFT I get maximum output.
You can use any of the well known techniques to achieve symbol sync, early late gate etc.

The biggest problem I have had so far is tracking the symbol timing because of the poor
frequency accuracy of the majority of sound cards.

> I have yet to find a muggins to do the programming for me - it's well beyond
> my ability, but I am sure when the time comes I'll be in touch for more
> ideas.

Maybe now is the time to learn, I am sure you will get plenty of help from people on this
sig.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Q15X25 for Win95?

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Thu, 01 Jun 2000 14:33:03 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87819-2000.06.01-08.34.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ken Wickwire wrote:
>
> Chas. & all:
>
> We (and others) have been sending straight TCP/IP over NVIS channels with
> NOS and MS-110A serial-tone modems for a couple of years as part of our
> on-air
> eval program (just published a report on it). You need to pay careful attention
> to segment size and modem rate as channels change and of course u need
> to get
> an MS-110A modem, but it works fairly well. Of course much better is a protocol
> like 1052 or 5066 over HF with translation to TCP/IP at the end points.
>
> Ken

Hi Ken,

Yes when I was at Marconi we were looking at TCP/IP over HF and also X.400.
Since I left they have been actually doing it as well as an NT implementation
of Stanag 5066. If you have been to any of the conferences I guess you might
have seen the software.

This guy would like to use Harris modems but they simply cost too much.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: Q15X25 for Win95?

From: Ken Wickwire <kwick@mitre.org>
Date: Thu, 01 Jun 2000 13:47:13 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87820-2000.06.01-08.53.48--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My secretary is sending me an e-copy of our TCP paper; I'll fwd it anon.

There's a company called Wave Science in Rochester, NY, (former Harris engineers)
who claim to have an MS-110A/ALE modem on a PC card for $1600. That
still too much?

I'm well acquainted with the Marconi 5066; we evaluated a demo version
on-air last year.
It could not use the autobaud feature of MS-110A (used only STANAG
4285), so was
very slow. Marconi say they are waiting for a (US?) customer to fund an
adaptive data-rate
DLP for their 5066 product. May be a long wait.

Charles H Brain wrote:
>
> Ken Wickwire wrote:
> >
> > Chas. & all:
> >
> > We (and others) have been sending straight TCP/IP over NVIS channels with
> > NOS and MS-110A serial-tone modems for a couple of years as part of our
> > on-air
> > eval program (just published a report on it). You need to pay careful attention
> > to segment size and modem rate as channels change and of course u need
> > to get
> > an MS-110A modem, but it works fairly well. Of course much better is a protocol
> > like 1052 or 5066 over HF with translation to TCP/IP at the end points.
> >
> > Ken
>
> Hi Ken,
>
> Yes when I was at Marconi we were looking at TCP/IP over HF and also X.400.
> Since I left they have been actually doing it as well as an NT implementation
> of Stanag 5066. If you have been to any of the conferences I guess you might
> have seen the software.
>
> This guy would like to use Harris modems but they simply cost too much.
>
> - Charles
>
> ---
> You are currently subscribed to hfsig as: KWICK@MITRE.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: Q15X25 for Win95?

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Thu, 01 Jun 2000 15:08:59 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87822-2000.06.01-09.10.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ken Wickwire wrote:
>
> My secretary is sending me an e-copy of our TCP paper; I'll fwd it anon.
>
> There's a company called Wave Science in Rochester, NY, (former Harris engineers)
> who claim to have an MS-110A/ALE modem on a PC card for $1600. That
> still too much?
>

I will let him know,

> very slow. Marconi say they are waiting for a (US?) customer to fund an
> adaptive data-rate
> DLP for their 5066 product. May be a long wait.
>

That is the way they work. The 5066 was paid for by NATO.

I would not be surprised if they drop HF all together, their main business
is optical switch products for high speed data these days, most of the military
stuff has been sold to BAE. New Street is a anomaly in the Marconi Empire. I think
it was only kept as it comes under the aegis of Marconi Italiana.

- Chas

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] MFSK mode Piccolo 2000

From: mwheatle@trsystems.com
Date: Thu, 1 Jun 2000 11:13:07 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>

Cc: coombedn@ihug.co.nz
Message-ID: <LYR4070-87835-2000.06.01-10.17.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Before i would want to get involved in development of a new mode i would like to have some clarification on some of the overall goals of such an endeavor.

1. Will it be a significant improvement over PSK31. If the new mode is only slightly better in a few marginal signal conditions, it isn't worth the effort. It needs to be a performance jump of the same order as RTTY to PSK31 or AM to ssb, etc.

2. The mode needs to be confined to a specific application, a live operator to operator communication mode such as CW, PSK31,RTTY.

3. Follow the model of why PSK31 became so popular and a bunch of very good modes did not. Easy access to the mainstream ham population. This means no separate DSP hardware, freely available software, and(MHO) fully open source code. This pretty much dictates PC soundcard hardware, Windows and Linux implementations.

4. A well agreed upon initial "spec" that would be the best overall feasible technical solution. I could see this turning into a "my idea is better than yours" contest. If only the technical merits of all the ideas are used as a criteria and judged with open minds perhaps this can be avoided.

5.Be aware of the ramifications of too wide a signal on the bands. What is the limit that will be tolerated before the narrow vs wide wars would begin. Since most PSK31 signals on 20m are about 5 times wider than they should be perhaps this is not an issue. >(

6. Speaking for myself, time scheduling to work on this would be an issue. It would have to be understood that this effort would be below payin' job, family, etc.

A few technical questions:

A. What about transmitter linearity requirements of MFSK? Any worse than PSK31?

B. Phil brought up several good points. One is what is an acceptable delay for this type mode. Contesters want instant turnaround so are already upset with PSK31's couple seconds. What is the average chatter's threshold of pain waitting for a response? This will affect how much iterleaving and coding can be tolerated.

C. Tuning. Phil described a possible solution. Will this signal be visable on a spectral display or will the user have to rely on the correlation algorithms to find an active station? Copying invisible signals is cool to me but the average ham i suspect wants to see or hear something besides text scrolling on a screen. Interference then becomes another big issue if you can't tell there is another station on frequency.

I hope the enthusiasm doesn't fizzle. Is this the right forum to toss around the technical ideas for a new mode? As quiet as HFSIG has been for the last few years i would think the extra noise would be welcome. If not, where to go?

73's
moe

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: MFSK mode Piccolo 2000

From: Johan Forrer <forrerj@peak.org>
Date: Thu, 1 Jun 2000 09:47:59 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: hfsig@lists.tapr.org
Message-ID: <LYR4070-87865-2000.06.01-11.50.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Phil,

Nice job on the Acedemod project! Congratulations.

A question: did you find your synch and loop bandwidth sufficient to
tolerate variations between different sound card's clock sampling
rates. These things are known to not be very good ... crystals are often
cheap 100 ppm (or worse.) I ask because it appears that longish blocks of
data are scanned to locate epochs. In such cases, slight errors in
sample rate often adds up, resulting in lost synch or bit slips.

A good example where one can see how bad it is are those sound
card-based WEFAX decoders showing slanted or bowed images. though folks
have devised wonderful measures to cope with that, though one need
to devise some "calibration" procedure. For example; MT63 project, Pawel
included a procedure in the code package where one feed a raw WWV
off-the-air signal into the sound card, it is smart enough to extract
the 1 pps ticks and tells you exactly what the sound card's error is.
Fixing it though is quite messy; MT63 actually does resampling by
interpolation for the correct rate, with a large data pipe built in
memory. It works in real time.

73,

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: MFSK mode Piccolo 2000

From: Phil Karn <karn@qualcomm.com>
Date: Thu, 1 Jun 2000 11:17:20 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: coombedn@ihug.co.nz,
"karn@qualcomm.com"
<LYR3433-87835-2000.06.01-10.17.47--KARN#QUALCOMM.COM@lists.tapr.org>
(mwheatle@trsystems.com)
Message-ID: <LYR4070-87880-2000.06.01-13.19.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>1. Will it be a significant improvement over PSK31. If the new mode is

I think it can be. PSK31 has has some real drawbacks as I see it:

a. (Coherent?) PSK: inappropriate for fading channels

b. FEC is available only with QPSK mode. QPSK is even less appropriate
than BPSK for slow signalling on fading channels

c. Lack of sufficient redundancy to detect uncorrectible errors

d. Lack of sufficient interleaving in FEC mode to handle fading

e. Inefficient/unreliable frame synchronization

(If I'm wrong on any of these points, please correct me. What I know
about PSK31 comes solely from reading descriptions of it on the web; I
haven't actually run it on the air.)

I suspect the reason so many people like and run PSK31 is because it's
so much better than the alternatives, not because it's the best that
can be done.

>3. Follow the model of why PSK31 became so popular and a bunch of very good
>modes did not. Easy access to the mainstream ham population. This means no
>separate DSP hardware, freely available software, and(MHO) fully open source
>code. This pretty much dictates PC soundcard hardware, Windows and Linux
>implementations.

I could not agree more.

>5.Be aware of the ramifications of too wide a signal on the bands. What is
>the limit that will be tolerated before the narrow vs wide wars would begin.
>Since most PSK31 signals on 20m are about 5 times wider than they should be
>perhaps this is not an issue. >(

Here I disagree. Hams seem to have a misplaced but entrenched fetish
for narrow bandwidths. Overcoming this and going to wider signal
bandwidth is the key to reduced transmitter powers and improved
resistance to frequency-selective fading.

Consider the comparison in QEX some years ago of the most popular ham
HF digital modes against the standard military HF modems. The latter
beat the former on power levels by about 10 dB, and the main
difference was that the military modes used wider signals.

This latter feature is especially important to those concerned about
latency, because a lack of frequency diversity has to be made up by
diversity in another dimension, i.e., in space or time. Space
diversity implies multiple antennas and receiver chains, which most
hams would find impractical. This leaves time diversity, which implies
delay. To the extent that you can use frequency diversity to replace
time diversity (e.g. in frequency selective fading), you'll get better
performance for less latency.

>A. What about transmitter linearity requirements of MFSK? Any worse than
>PSK31?

Probably about the same. MFSK has only one tone on at a time, so an
unfiltered MFSK signal would have no linearity requirements at all,
just like an unfiltered PSK signal. But the filtering in a SSB
transmitter will introduce some envelope variations, though I don't
expect they'll be a problem. At least intermodulation distortion won't
be a problem.

>B. Phil brought up several good points. One is what is an acceptable delay
>for this type mode. Contesters want instant turnaround so are already upset
>with PSK31's couple seconds. What is the average chatter's threshold of
>pain waitting for a response? This will affect how much iterleaving and
>coding can be tolerated.

What's worse, a "low delay" mode that requires N retransmissions to
get through, or a "high delay" mode that always gets through the first
time? Seems better to just apply the FEC and the appropriate amount
of interleaving.

>C. Tuning. Phil described a possible solution. Will this signal be visable
>on a spectral display or will the user have to rely on the correlation
>algorithms to find an active station? Copying invisible signals is cool to
>me but the average ham i suspect wants to see or hear something besides text
>scrolling on a screen. Interference then becomes another big issue if you
>can't tell there is another station on frequency.

Here's where some more ham preconceptions must be overcome. To
paraphrase Arthur C. Clarke, any sufficiently advanced communication
signal is indistinguishable from noise. A well designed low speed MFSK
signal like the one we've been discussing should be copyable even when
it is totally inaudible to the ear.

Basically, if your low-speed signal has to be audible to be copyable,
then it is just not very efficient by modern coding and modulation
standards.

Phil

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: MFSK mode Piccolo 2000

From: Phil Karn <karn@qualcomm.com>
Date: Thu, 1 Jun 2000 11:53:54 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: hfsig@lists.tapr.org, karn@qualcomm.com
Message-ID: <LYR4070-87889-2000.06.01-13.56.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Johan.

>Nice job on the Acedemod project! Congratulations.

Thanks! It's been in production use at several NOAA earth stations
since early this year, which I find gratifying. You can see the
tracking statistics on

http://www.sec.noaa.gov/ace/ACErtsw_home.html

Note how there are few if any gaps in coverage. Before I gave them my
code, they had lots of gaps because they didn't have the money to buy
commercial hardware decoders for all their ground stations.

>A question: did you find your synch and loop bandwidth sufficient to
>tolerate variations between different sound card's clock sampling
>rates. These things are known to not be very good ... crystals are often

Yes. Note how I scan for the sync vectors at the end of each frame. I
do it in a window of 16 seconds +/- 200 samples (or so) after the
starting sync. The number of A/D samples between the two sync vectors
is nominally 16 times the sound card's sampling rate, but it will
always be slightly more or less due to the frequency errors in the
sound card's sampling clock and/or the spacecraft's symbol clock. I
then compute the exact carrier phase increment per A/D sample, and
interpolate the carrier phase between the two sync vectors to
demodulate the data. This removes any static frequency errors.

Though there are significant frequency errors in the crystal clocks on
the typical sound card, even cheap crystals have very good short-term
stability. So I can just assume that the rate of change in frequency
will be nil over the 16 second frame. This seems to be the case, and
I've not seen any need to track symbol timing more tightly.

A bigger issue for me is the inability to control the *phase* of the
sound card's A/D sample clock. Ideally I'd like to sample only twice
per symbol, and to put those samples exactly in the middle of each
half of the manchester-encoded channel symbol. But I can't do that,
and demodulation performance suffered noticeably even though the
sampling rate is above the nyquist rate for the signal.

I found two ways around this. The first and easiest way is to
oversample much faster than the symbol rate. This works, but it is
inefficient. A higher sampling rate means longer blocks for the sync
vector correlator, and it means more samples per symbol for the
integrate-and-dump operation on each channel symbol. At high sampling
rates (e.g., 44 KHz), I found I was spending more CPU time on
demodulating the manchester coding than on the Viterbi and
Reed-Solomon decoding!

I also experimented with a second way that allows lower sampling rates
and lower CPU utilization when the signal is reasonably good. If a
frame successfully decodes, I simply proceed to the next frame. But if
it doesn't, I repeat the whole demod/decode process with a slight
offset (a fraction of an A/D sample) in the subcarrier phase used for
demodulation. I try phase offsets with alternating signs and
increasing absolute value until either the frame decodes or I reach
some retry limit and give up.

Because each ACE frame contains 4 interleaved Reed-Solomon blocks, I
found that one carrier phase offset might allow one RS block to be
recovered, while another offset would allow another RS block to be
recovered -- but not the first. So the natural approach is to just
combine the positive results from all the demod/decoding attempts.

Phil

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: MFSK mode Piccolo 2000

From: mwheatle@trsystems.com
Date: Thu, 1 Jun 2000 16:17:32 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87897-2000.06.01-15.22.14--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>a. (Coherent?) PSK: inappropriate for fading channels
>b. FEC is available only with QPSK mode. QPSK is even less appropriate than
BPSK for slow signalling on fading channels

>c. Lack of sufficient redundancy to detect uncorrectible errors
>d. Lack of sufficient interleaving in FEC mode to handle fading
>e. Inefficient/unreliable frame synchronization
>(If I'm wrong on any of these points, please correct me. What I know
>about PSK31 comes solely from reading descriptions of it on the web; I
>haven't actually run it on the air.)
>I suspect the reason so many people like and run PSK31 is because it's
>so much better than the alternatives, not because it's the best that
>can be done.

Technically I can't disagree but am still not totally convinced that a mode even at the theoretically limit would significantly make a live chat mode that much better. There are other factors besides BER that are appealing to operators. One is the ability to easily find a signal to talk to. Another is the relative fast turnaround. The ability to break into and join a qso. These kind of things have to go into the mix as well as the raw signaling specs.

>Hams seem to have a misplaced but entrenched fetish
>for narrow bandwidths. Overcoming this and going to wider signal
>bandwidth is the key to reduced transmitter powers and improved
>resistance to frequency-selective fading.
>
>Consider the comparison in QEX some years ago of the most popular ham
>HF digital modes against the standard military HF modems. The latter
>beat the former on power levels by about 10 dB, and the main
>difference was that the military modes used wider signals.
>
>This latter feature is especially important to those concerned about
>latency, because a lack of frequency diversity has to be made up by
>diversity in another dimension, i.e., in space or time. Space
>diversity implies multiple antennas and receiver chains, which most
>hams would find impractical. This leaves time diversity, which implies
>delay. To the extent that you can use frequency diversity to replace
>time diversity (e.g. in frequency selective fading), you'll get better
>performance for less latency.

I agree 100%. Unfortunately the real world of amateur radio is very slow to change. We can wait for it to change on it's own, try to change it all at once, or nudge it in small baby steps. PSK31 made the first small step in showing that CW is not the only way to communicate with low power. My question is how far can the next step be without being rejected by the majority. Unfortunately politics and tradition will always be a part of ham radio so you gotta work around it through education(ie show me don't just tell me) and diplomacy.

>What's worse, a "low delay" mode that requires N retransmissions to
>get through, or a "high delay" mode that always gets through the first
>time? Seems better to just apply the FEC and the appropriate amount
>of interleaving.

I agree to a point. Most will accept a 85% signal copy and not bother to ask for a repeat as long as the get the meat of the message. Let your brain do the final error correction.   They would not accept a 30 second or probably even a 10 second turn around just to get 100%. This is a distinction from a data connection where you can accept nothing less than 100%. Perhaps a variable delay? Under good S/N use short sequences, when things get rough, crank in the heavy artillery.

>>C. Tuning. Phil described a possible solution. Will this signal be
visable
>>on a spectral display or will the user have to rely on the correlation
>>algorithms to find an active station? Copying invisible signals is cool
to
>>me but the average ham i suspect wants to see or hear something besides
text
>>scrolling on a screen. Interference then becomes another big issue if you
>>can't tell there is another station on frequency.

>Here's where some more ham preconceptions must be overcome. To
>paraphrase Arthur C. Clarke, any sufficiently advanced communication
>signal is indistinguishable from noise. A well designed low speed MFSK
>signal like the one we've been discussing should be copyable even when
>it is totally inaudible to the ear.
>Basically, if your low-speed signal has to be audible to be copyable,
>then it is just not very efficient by modern coding and modulation
>standards.

Agreed but there needs to be some method whether by spectrum of some other

user interface scheme, a way to show a signal is active so as to avoid it or
contact it. I guess you could decode every signal in the receive passband
and let the user pick. If there are 10-20 stations on at the same time
things could get complicated. This is becoming a typical case for PSK31
nowdays at least on 20m.

Would also be nice to include some form of power control but perhaps that's
asking a bit much.

Perhaps I'm thinking too much in terms of a better PSK31 and should rather
think of a new ultra weak signal mode for use by the qrp and dx folks.

Thanks for the comments. Glad to see the "big guns" getting involved again
in these types of discussions.

moe

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] Re: MFSK mode Piccolo 2000

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Thu, 01 Jun 2000 22:08:40 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87904-2000.06.01-16.10.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

mwheatle@trsystems.com wrote:

> operators. One is the ability to easily find a signal to talk to. Another is
> the relative fast turnaround. The ability to break into and join a qso.
>

The 136 Khz band people would really love a very high performance new mode.

Turn around no problem, Interleaver delay no problem, a lot of the operators
are now locking their radios to atomic frequency standards. In fact I know someone
who has his own caesium standard to lock his gear to. They are also using things like PSK8
a slowed down version of PSK31 or coherent CW.

Another thing I have been asked about is what would be the optimum data mode to use on
the microwave bands, bands like 24Ghz and above where frequency stability is a problem.

Just a thought, mind you neither of these are HF :-).

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] Re: MFSK mode Piccolo 2000

From: Phil Karn <karn@qualcomm.com>
Date: Thu, 1 Jun 2000 15:34:18 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "karn@qualcomm.com"
 <LYR3433-87904-2000.06.01-16.10.35--KARN#QUALCOMM.COM@lists.tapr.org>
 (message from Charles H Brain on Thu, 01 Jun 2000 22:08:40 +0100)
Message-ID: <LYR4070-87916-2000.06.01-17.36.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Another thing I have been asked about is what would be the optimum data mode to use on
>the microwave bands, bands like 24Ghz and above where frequency stability is a problem.

Charles,

If it's a line of sight path with a high SNR and minimal multipath,
then it's easy -- either BPSK or QPSK. At the high data rates that
could be supported, the carrier tracking loops could be narrow enough
to provide a good phase reference while still wide enough to track LO
phase noise.

Many people don't realize that it is actually a lot easier to design a
high speed modem than a low speed modem, assuming you have enough SNR
to support high speed operation in the first place.

As symbols become shorter, channel changes due to doppler shift, LO
phase noise, fading, etc, appear relatively slower and become easier

to deal with. This is especially important with coherent receivers for BPSK, QPSK and QAM, as they require carrier phase estimates made by looking at tens (BPSK) or hundreds of consecutive channel symbols (QPSK, QAM). If the speed is high enough, the carrier phase change due to channel fading, doppler and LO phase noise will again be small over the required number of symbols.

Coherent schemes fall apart at low speed on fading channels because the channel changes too quickly to ever get a good carrier phase estimate before it changes. This is particularly bad with QPSK, where you are forced to burn the candle at both ends; not only does QPSK require a more accurate carrier phase estimate than BPSK to avoid I/Q bleedover, but the carrier recovery process is more lossy for QPSK than for BPSK. That's why the QPSK mode in PSK31 doesn't work very well.

The preferred modulation methods for slow fading channels require channel coherency over the shortest possible time: one symbol for the "noncoherent" mechanisms like FSK or two symbols for DPSK. Both work much better than any coherent PSK scheme.

One factor does work against you as speed increases: multipath delay spread. As the symbol time decreases, the delay spread becomes a larger fraction of the symbol time. This can introduce significant intersymbol interference.

Aside from reducing the multipath with more directional antennas, there are two standard ways to deal with it: equalization and spreading. In equalization, you build a model of the multipath, usually by sending known test signals and seeing how they appear at the receiver. This lets the receiver subtract out the multipath components. In spreading, you reduce the power spectral density of your signal so that the multipath components can be isolated and either combined in phase, or rejected completely.

FEC is also helpful in combatting multipath in that it reduces the demodulator's SNR requirements, making it less susceptible to an interfering multipath signal of a given amplitude.

Normally you think of FEC as helping to reduce transmitter power requirements, and it does do that here. But increasing transmitter power can't overcome multipath because the multipath components will rise right along with the desired direct component! By improving the signal's resistance to interference and noise, FEC can improve multipath resistance, because multipath is just a form of interference.

Basically, I can't think of any digital communications link where FEC is undesirable. Given the opportunity to replace an uncoded system with a coded system and perhaps a modified modulation format, I can always do better on any criteria you care to name. This goes for slow-speed HF links, satellite links, land mobile and point-to-point microwave.

Phil

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] Announcement: HF Digital Talk at NW ARRL Convention

From: Johan Forrer <forrerj@peak.org>
Date: Thu, 1 Jun 2000 17:13:25 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87931-2000.06.01-19.16.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

Announcement of a talk by Johan Forrer, KC7WW:

Operating the latest HF Digital modes using your PC.

Date: Saturday, June 3, 2000 - 3:45 PM.
Venue: NW ARRL Convention seminars, Seaside, Oregon.

Covers PSK31, HELL, and MT63. Software, interfacing options, internet

resources for the latest programs and news, operating procedures and
frequencies, time to ask questions, time to have fun --- fairly non
technical.

Hope to see you there if you can make it. 73

Johan

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: Q15X25 for Win95?

From: "HFCOM" <hfcom@home.com>
Date: Thu, 1 Jun 2000 20:38:45 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87983-2000.06.01-22.52.45--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

We have a couple of "WaveScience" systems under evaluation in our lab. We
have been running them with our HF radios.

Their system ("Marauder") supports MS-110A(2k4+bps) and MS-110B (appendix C,
9k6 bps). They *will* also support MS-141A ALE (no info on their support for
the current MS-141B ALE standard). My staff will be meeting them next week
as I need to be in Virginia for some business.

For hams, it's a costly toy... but for commercial/military users, it is
interesting. As far as I am aware, they are the first group to offer a
MS-110A/B modem with ALE in a PC-CARD format. In reality, there is the
PC-CARD, an external interface device (audio I/O in a box with DB-type
connectors) and the software suite.

However, you do need to know that it requires at the very least a 300MHz
computer as the decoding algorithms are mainly processed in the computer...
not the PC-CARD.

You can read this info and see some system diagrams on their website:
http://www.wavescience.com

Bruno Haineault,
Oceanside, California

----- Original Message -----
From: "Charles H Brain" <chbrain@dircon.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Thursday, June 01, 2000 07:08
Subject: [hfsig] Re: Q15X25 for Win95?

> Ken Wickwire wrote:
> >
> > My secretary is sending me an e-copy of our TCP paper; I'll fwd it anon.
> >
> > There's a company called Wave Science in Rochester, NY, (former Harris
engineers)
> > who claim to have an MS-110A/ALE modem on a PC card for $1600. That
> > still too much?
> >
>
> I will let him know,
>
> > very slow. Marconi say they are waiting for a (US?) customer to fund an
> > adaptive data-rate
> > DLP for their 5066 product. May be a long wait.
> >
>
> That is the way they work. The 5066 was paid for by NATO.
>
> I would not be surprised if they drop HF all together, their main business
> is optical switch products for high speed data these days, most of the

military
> stuff has been sold to BAE. New Street is a anomaly in the Marconi Empire.
I think
> it was only kept as it comes under the aegis of Marconi Italiana.
>
> - Chas
>
> ---
> You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] page3

From: "Paulus" <paulstra@xs4all.nl>
Date: Fri, 2 Jun 2000 09:17:35 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "Lionel Sear G3PPT" <lionel@lsear.freeserve.co.uk>
Message-ID: <LYR4070-88033-2000.06.02-02.20.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello all,

Read about the Throb mode, quite sensitive (and narrow) but not fast.
Because the Throb mode is Sideband dependant, we hope soon that Lionel G3PPT
will have some time to add an Reverse button, so we all can be on USB.
Calling QRG's: 21.063 18.103 14.063 carrier USB.

 http://www.lsear.freeserve.co.uk/page3.html

Hope to see you around,

Paul, PA0OCD
[Attachment: page3.url; application/octet-stream; 158 bytes]

22. [hfsig] Re: Q15X25 for Win95?

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Fri, 02 Jun 2000 10:33:31 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88039-2000.06.02-05.01.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

HFCOM wrote:
>
> We have a couple of "WaveScience" systems under evaluation in our lab. We
> have been running them with our HF radios.
>
Thanks Bruno.

That was very informative, especially as I recently bought a 500 Mhz Pentium III
machine with a full duplex sound card for developing stuff like that myself.

You are probably right about the ALE card, sometime ago when I was still at
Marconi we were in conversation with another company that were going to make an
ALE card like that but it never materialized, they were out in your neck of the woods.

I have been looking at the idea of buying some cheap soundcards and replacing the xtal
oscillators with some temperature compensated units, there is a company near me
that make custom TCXOs and I had thought of getting a small batch made. I have not enquired
about the price yet. Also I have not opened up my PC yet to see what frequencies I need. I think
most sound cards have two oscillators on them.

I assume your radios support a 3 khz bandwidth. I recently bought a Ten-Tec Pegasus so I could
take advantage of the wider DSP filtering in it.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] Re: MFSK mode Piccolo 2000

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Fri, 02 Jun 2000 10:58:47 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88040-2000.06.02-05.02.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Phil Karn wrote:
>
> >Another thing I have been asked about is what would be the optimum data mode to use on
> >the microwave bands, bands like 24Ghz and above where frequency stability is a problem.
>
> Charles,
>
> If it's a line of sight path with a high SNR and minimal multipath,
> then it's easy -- either BPSK or QPSK. At the high data rates that
> could be supported, the carrier tracking loops could be narrow enough

Phil,

Thanks for that, I have forwarded the message onto the person that asked
me the question in the first place, at least you agree with what I told him!
He wouldn't believe me but as you have more street cred than I do maybe he will
believe you HI.

> bleedover, but the carrier recovery process is more lossy for QPSK
> than for BPSK. That's why the QPSK mode in PSK31 doesn't work very
> well.

Yes I went into panic mode a couple of months ago as I had been asked
to give a talk at the AMSAT-UK Colloquium about my digital speech experiments.
The OFDM modem is not really suitable for satellite channels with Doppler shift
on them, so I had to come up with a more suitable modem. Although it is not
optimum I have come up with PI/4-DQPSK modem, for the frequency correction I
transmit a preamble sequence which consists of only 2 of the four symbols i.e
0 and 3. From initial experiments it seems to track quite well. To get it to
operate through my old FT290R in SSB mode I have had to use a rolloff of 0.2
which degrades the S/N performance, it originally used a 0.35 rolloff.

> Aside from reducing the multipath with more directional antennas,
> there are two standard ways to deal with it: equalization and

Yes I have been playing with a complex baseband channel equalizer. Initially
using an LMS tap update, but more recently I have been trying to use the
modified root Kalman algorithm. I found a paper

"Square Root Kalman Filtering for High-Speed Data Received over Fading Dispersive H.F Channels"
F.M HSU IEE Transactions on Information theory, Vol IT-28 No 5 Sept 1982.

I got about half way through the maths then my brain gave in, but he condenses the theory down
to a 12 step algorithm which even I can turn into C. So I am hoping to incorporate that into
a modem. The problem I am having is that it goes unstable sometimes, but it does appear to
work and adapts about 50 times faster than LMS does.

> Basically, I can't think of any digital communications link where FEC
> is undesirable. Given the opportunity to replace an uncoded system

You want to speak to G3PLX about that, I got into quite a heated discussion on this topic a
couple of years ago with him, we agreed to disagree in the end.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Re: MFSK mode Piccolo 2000

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Fri, 02 Jun 2000 12:43:24 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88047-2000.06.02-05.46.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Phil Karn wrote:

> There's no need to scrimp on the code's strength, either. I have a k=7

> r=1/2 Viterbi decoder implemented in MMX that runs at 2.1 megabits/sec
> on a 400 MHz Pentium II -- far beyond that required for HF. The code
> is on my webpage as part of my ACE decoder, http://people.qualcomm.com/karn/code/acedemod.

Interesting. You seem to be using 8bit metrics - doesn't this limit
the usable "packet" length quite strongly?

I've recently implemented a VE with both MMX and VIS. MMX uses
32bit metric, so I can use PMADDWD to compute the euclidean distance.
Interestingly on a 6x86MX I've seen a factor 10 speedup over the
C code even though the MMX code only processed two branches in parallel.
On more recent processors the speedup was slightly more than 2, as expected.

VIS is pretty annoying, as unaligned accesses are complicated
and dog slow. Multiplies are also dog slow.

My results for k=3, 8ary symbols and a total of 12 symbols:

UltraSparc 166: straight C: 3ms   VIS: 500us
AMD K6-3D 350:   straight C: 390us MMX: 130us

Tom

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

25. [hfsig] Re: MFSK mode Piccolo 2000

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Fri, 02 Jun 2000 12:52:56 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88049-2000.06.02-05.55.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan Forrer wrote:

> A good example where one can see how bad it is are those sound
> card-based WEFAX decoders showing slanted or bowed images. though folks
> have devised wonderful measures to cope with that, though one need
> to devise some "calibration" procedure. For example; MT63 project, Pawel
> included a procedure in the code package where one feed a raw WWV
> off-the-air signal into the sound card, it is smart enough to extract

I found that I needed to do the same for my Amtor/Pactor implementation.
I had two methods for measuring the clock of the soundcard, one was to feed
a DCF77 signal into the soundcard (which is probably better than WWV
because DCF77 also modulates the carrier phase with a PN sequence and
thus allows more precise location of the second pulse than with AM
methods), the other one was to feed a raw baseband video
signal into the soundcard. The video signal has a spectral line
at 15.625kHz (for PAL signals, line sync). Some TV transmitters
(I was told "Zweites Deutsches Fernsehen", ZDF) even sync their
TV signal to an atomic clock source.

Tom

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

26. [hfsig] High Speed HF Modem and HF E-Mail

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Fri, 2 Jun 2000 11:39:06 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "'Jack Klein'" <rkklein@swbell.net>,
        "'Cactus Charlie'"
 <habitat@electrotex.com>,
        "'k4abt@packetradio.com'"
 <k4abt@packetradio.com>,
        "'w2vu@cq-amateur-radio.com'"
 <w2vu@cq-amateur-radio.com>,
        DuBose <dubose@texas.net>
Message-ID: <LYR4070-88104-2000.06.02-11.42.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.wavescience.com/News.asp

Here's the dirct link for the Marauder E-Mail system I found on the Wave
Science site...E-Mail at 9600 BPS.

WOW!!! This would be super for hams (and the military).

Other pages are:

http://www.wavescience.com/ws1000-1.asp - Looks like a Harris "Hawk" radio
and laptop with the modem card in front.

Too bad all there software is only defective Microsoft operating systems
software and not a solid open-source operating system like Linux.

Walt/K5YFW

-----Original Message-----
From: HFCOM [mailto:hfcom@home.com]
Sent: Thursday, June 01, 2000 10:39 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: Q15X25 for Win95?

We have a couple of "WaveScience" systems under evaluation in our lab. We
have been running them with our HF radios.

Their system ("Marauder") supports MS-110A(2k4+bps) and MS-110B (appendix C,
9k6 bps). They *will* also support MS-141A ALE (no info on their support for
the current MS-141B ALE standard). My staff will be meeting them next week
as I need to be in Virginia for some business.

For hams, it's a costly toy... but for commercial/military users, it is
interesting. As far as I am aware, they are the first group to offer a
MS-110A/B modem with ALE in a PC-CARD format. In reality, there is the
PC-CARD, an external interface device (audio I/O in a box with DB-type
connectors) and the software suite.

However, you do need to know that it requires at the very least a 300MHz
computer as the decoding algorithms are mainly processed in the computer...
not the PC-CARD.

You can read this info and see some system diagrams on their website:
http://www.wavescience.com

Bruno Haineault,
Oceanside, California

----- Original Message -----
From: "Charles H Brain" <chbrain@dircon.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Thursday, June 01, 2000 07:08
Subject: [hfsig] Re: Q15X25 for Win95?

> Ken Wickwire wrote:
> >
> > My secretary is sending me an e-copy of our TCP paper; I'll fwd it anon.
> >
> > There's a company called Wave Science in Rochester, NY, (former Harris
engineers)
> > who claim to have an MS-110A/ALE modem on a PC card for $1600. That
> > still too much?
> >
>
> I will let him know,
>
> > very slow. Marconi say they are waiting for a (US?) customer to fund an
> > adaptive data-rate
> > DLP for their 5066 product. May be a long wait.
> >
>
> That is the way they work. The 5066 was paid for by NATO.
>
> I would not be surprised if they drop HF all together, their main business
> is optical switch products for high speed data these days, most of the
military
> stuff has been sold to BAE. New Street is a anomaly in the Marconi Empire.
I think
> it was only kept as it comes under the aegis of Marconi Italiana.
>
> - Chas

>
> ---
> You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

27. [hfsig] Re: Q15X25 for Win95?

From: "Bruno Haineault" <bhaineault@home.com>
Date: Fri, 2 Jun 2000 18:55:13 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88207-2000.06.02-21.01.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Charles,

Yes, our radios do have a STANAG-compliant filter option. It is used for
MS-110A support. Technically speaking, I really question the reliability of
the 9k6 bps & higher waveform support on multi-hop HF circuits. I know that
9k6 can be achieved on direct and certain NVIS paths, but the reality is
that you will more likely take advantage of the 3k2 bps speed of MS-110B
Annex C.

More later.. need to have diner with my wife ;-)

73

Bruno Haineault,
Oceanside, California

----- Original Message -----
From: "Charles H Brain" <chbrain@dircon.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Friday, June 02, 2000 02:33
Subject: [hfsig] Re: Q15X25 for Win95?

> HFCOM wrote:
> >
> > We have a couple of "WaveScience" systems under evaluation in our lab.
We
> > have been running them with our HF radios.
> >
> Thanks Bruno.
>
> That was very informative, especially as I recently bought a 500 Mhz
Pentium III
> machine with a full duplex sound card for developing stuff like that
myself.
>
> You are probably right about the ALE card, sometime ago when I was still
at
> Marconi we were in conversation with another company that were going to
make an
> ALE card like that but it never materialized, they were out in your neck
of the woods.
>
> I have been looking at the idea of buying some cheap soundcards and
replacing the xtal
> oscillators with some temperature compensated units, there is a company
near me
> that make custom TCXOs and I had thought of getting a small batch made. I
have not enquired
> about the price yet. Also I have not opened up my PC yet to see what
frequencies I need. I think
> most sound cards have two oscillators on them.
>
> I assume your radios support a 3 khz bandwidth. I recently bought a
Ten-Tec Pegasus so I could

> take advantage of the wider DSP filtering in it.
>
> - Charles
>
>
>
> ---
> You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

28. [hfsig] Re: MFSK mode Piccolo 2000

From: Phil Karn <karn@ka9q.ampr.org>
Date: Fri, 2 Jun 2000 07:24:00 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: hfsig@lists.tapr.org
Message-ID: <LYR4070-88233-2000.06.02-21.56.04--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Interesting. You seem to be using 8bit metrics - doesn't this limit
>the usable "packet" length quite strongly?

I assume by "8 bit metrics" you meant specifically "8-bit path metrics".

Not at all. Note how I do survivor selection at each node. I subtract
the two 8-bit path metrics and compare the difference to zero. I.e., I
compute "(a-b) > 0" rather than just "a>b". This does the comparison
in modulo-256 arithmetic, so the path metrics can (and do) frequently
"wrap around" without harm. It does mean that no meaningful final path
metric is left over at the end of decoding, so the MMX version of the
decoder just returns 0.

It *is* important to ensure that the path metric "spread" at each
stage in the trellis be kept below 127. I do this by limiting the
magnitude of the branch metrics. As I recall the metric spread is
bounded by the largest branch metric times the free distance of the
convolutional code, and I verified this by test. This means I'd have
to use smaller metrics (or possibly abandon 8-bit path metrics) if I
were to implement a code with a larger free distance, i.e., with a
constraint length greater than 7 or a rate less than 1/2.

Note that my general purpose Viterbi decoder in C uses 32 bit path
metrics with no provision for wraparound. This should handle codes
with larger free distances as long as the block sizes are kept within
reasonable bounds.

The speed of this decoder is about 2.1 megabits/sec on a 400 MHz
Pentium-II. That's about 3x the speed of my hand-optimized C version.
The general-purpose C version (the one that can do any arbitrary code)
is slower than that.

Phil

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

29. [hfsig] Re: Q15X25 for Win95?

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Sun, 04 Jun 2000 12:46:47 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88520-2000.06.04-06.50.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bruno Haineault wrote:
>
> Hi Charles,
>
> Yes, our radios do have a STANAG-compliant filter option. It is used for
> MS-110A support. Technically speaking, I really question the reliability of
> the 9k6 bps & higher waveform support on multi-hop HF circuits. I know that
> 9k6 can be achieved on direct and certain NVIS paths, but the reality is

> that you will more likely take advantage of the 3k2 bps speed of MS-110B
> Annex C.

I don't know how similar 110B is to Stanag 5066 Appendix G but I am dubious
about using 64QAM on HF, it might be o.k for fleet comms using surfacewave
at sea I guess.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

30. [hfsig] Re: MFSK mode Piccolo 2000

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Sun, 04 Jun 2000 12:43:14 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88519-2000.06.04-06.50.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

mwheatle@trsystems.com wrote:

> Technically I can't disagree but am still not totally convinced that a mode
> even at the theoretically limit would significantly make a live chat mode
> that much better. There are other factors besides BER that are appealing to
> operators. One is the ability to easily find a signal to talk to. Another is
> the relative fast turnaround. The ability to break into and join a qso.
> These kind of things have to go into the mix as well as the raw signaling
> specs.
>

Maybe what is now required is not another chat mode but a free competitor to
PACTOR-II or Clover that runs on a P.C occupying a similar bandwidth.

I have noticed quite a lot of anti PACTOR II sentiment about, Clover does not
seem to draw the same amount of bile. The feeling seems to centre around the
proprietary nature of the waveform.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

31. [hfsig] Re: Q15X25 for Win95?

From: "Bruno Haineault" <bhaineault@home.com>
Date: Sun, 4 Jun 2000 13:42:21 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88627-2000.06.04-15.47.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles,

I agree with you about the effectiveness of 9k6bps/64QAM on multi-hop links.
By the way, 110B also specs a 19k2 bitrate using 2-ISB (!). The unfortunate
thing is that vendors are peddling the 9k6bps speed and "untrained users"
(the vast majority of them) are now demanding this. It is a shame as they
will be disappointed.

The "real" benefit of 110B, appendix C, is the advent of a robust 3k2bps
bitrate. You will have a better chance of sustaining 3k2bps than the 2k4bps
of 110A.

To bad that users are being sold on the "maximum bitrates"... with often no
mention that these can only be attained during very short periods (or for
fleet coms, as you mentioned).

Bruno Haineault,
Oceanside, California

----- Original Message -----
From: "Charles H Brain" <chbrain@dircon.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Sunday, June 04, 2000 04:46
Subject: [hfsig] Re: Q15X25 for Win95?

> Bruno Haineault wrote:
> >
> > Hi Charles,
> >
> > Yes, our radios do have a STANAG-compliant filter option. It is used for
> > MS-110A support. Technically speaking, I really question the
reliability of
> > the 9k6 bps & higher waveform support on multi-hop HF circuits. I know
that
> > 9k6 can be achieved on direct and certain NVIS paths, but the reality is
> > that you will more likely take advantage of the 3k2 bps speed of MS-110B
> > Annex C.
>
> I don't know how similar 110B is to Stanag 5066 Appendix G but I am
dubious
> about using 64QAM on HF, it might be o.k for fleet comms using surfacewave
> at sea I guess.
>
> - Charles
>
>
> ---
> You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

32. [hfsig] MS-110A/B

From: Matthew Ettus <matt@ettus.com>
Date: Mon, 05 Jun 2000 09:17:25 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88703-2000.06.05-00.06.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There has been a lot of discussion for MS-110A and 110B, as well as
Stanag 5066. Can someone provide a reference to these waveforms? Are
they at all related to FS-1052?

Thanks
Matt
N2MJI

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

33. [hfsig] Re: MS-110A/B

From: "Bruno Haineault" <bhaineault@home.com>
Date: Sun, 4 Jun 2000 22:21:57 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88710-2000.06.05-00.31.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Matthew,

MS-110A is related to FS-1052 (the serial tone waveform). However, MS-110B
is more related to STANAG-5066. MS-110A did not specify any ARQ protocol...
this is waht FS-1052 tried to do. STANAG-5066 does attack this shortcoming.

MS-110B, appendix C defines a 64QAM/9k6bps waveform. Other sections define a
19k2bps waveform to be used with 2-ISB radios.
MS-110B is designed to automatically "fallback" to MS-110A waveforms *if*
the circuit does not permit high-speed exchanges.

I have MS-110A/B and part of STANAG-5066 at the office. Like MS-188-141B
(the new ALE standard), they are large manuals ;-)

Bruno Haineault,
Oceanside, California

----- Original Message -----

From: "Matthew Ettus" <matt@ettus.com>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Monday, June 05, 2000 09:17
Subject: [hfsig] MS-110A/B

> There has been a lot of discussion for MS-110A and 110B, as well as
> Stanag 5066. Can someone provide a reference to these waveforms? Are
> they at all related to FS-1052?
>
> Thanks
> Matt
> N2MJI
>
> ---
> You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

34. [hfsig] Q15X25 for Win95?

From: darko.cikac@kc.tel.hr
Date: Mon, 5 Jun 2000 08:58:49 +0200 (MET DST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88725-2000.06.05-02.01.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Charles !

First, thanks for exelent ALE program (decoder) !
I like it becouse SWLing is my main hobby, another one is digital communication
like PR .
In HFSIG mail list I didnt saw any usefull answer on your question.
Im looking for something like this for a long long time.
Here in Craotia and especialy Slovenia PR-net is pritty fast, now I usning
TNC (SCC card isnt finished yet) with 19200 bps modem and home made "digital
radio",
better say wide band FM trx. That HW and FLEXNET tcp/ip driver for WIN95
working
good if you have internet gateway near you. So, I have to pass via 3 digis to
the nearest GW, links betveen digis is 38400bps, that going very slow, usualy
transfer is arround 300-400bps .Slovenian HAMs PR network is, I think best in
this part of Europe, they have 1m22bps links and user stations (home made
PSK 1G2
and 2G4 TRX), that working fine with tcp-ip in ax25 .
With FLEXNET tcp/ip-ax25 and HF 300bps AFSK modem that will be useless.So we
cant use
that on HF for sure, only if we are fanatic ,hi !
Question is, do you know for any program or driver or anything what can use
tcp-ip
protocol and can handle with radio, that mean, I need few parameters to set
like
TX delay, DCD, retrys and maybe few more to allow others to use same channel
, hi .
If I understand right, tcp-ip is packet like protocol, so why then we push it in
AX25 especialy when you dont need call sign identification, you have IP
number instead.
Maybe some modified SLIP driver for win9x or something like that .
If we have something like this, then we can use "dumb" modems AFSK or PSK(?) .
AX25 is modified X25 (call signs and radio control) so time is for tcp/ip , hi .
Maybe that isnt so simple, hi !
Then modems, of course.. Do you saw and PSK modem which havent powerfull DSP
procesor inside ? Any other DSP project (radio modems) not only with Motorolas
DSP 56002 board (this one is still to expencive for my budget and hard to find
it here, in Germany it cost more than 300DM, wife will kill me if Ill buy it
:(

OK Brian, keep you work on, I wish to see more project from you , unfortunatly
there in SWL world are no guys like you, than mean no good decoders for numerous
digital signals on HF (especialy PSK) .
HF is not dead, yet .My RX is always hot , hi !

Bye !

Darko , 9A3LI

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

35. [hfsig] upss

From: darko.cikac@kc.tel.hr
Date: Mon, 5 Jun 2000 09:30:58 +0200 (MET DST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88727-2000.06.05-02.33.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry guys !

That one was for Brian not group !

Bye !

9a3li

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

36. [hfsig] Re: MS-110A/B

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Mon, 05 Jun 2000 08:38:48 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88728-2000.06.05-02.40.45--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Matthew Ettus wrote:
>
> There has been a lot of discussion for MS-110A and 110B, as well as
> Stanag 5066. Can someone provide a reference to these waveforms? Are
> they at all related to FS-1052?
>
> Thanks
> Matt
> N2MJI
>
> ---
Hi Matt,
I only have Annexe G to 5066 in electronic form which is the high
speed modem waveform. 5066 itself is a whole host of stuff on
network management, email and datalink protocols.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

37. [hfsig] Re: MFSK mode Piccolo 2000

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Mon, 05 Jun 2000 11:12:07 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88729-2000.06.05-04.14.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles H Brain wrote:

> I got about half way through the maths then my brain gave in, but he condenses the theory down
> to a 12 step algorithm which even I can turn into C. So I am hoping to incorporate that into
> a modem. The problem I am having is that it goes unstable sometimes, but it does appear to
> work and adapts about 50 times faster than LMS does.

I don't quite know what data you want to transmit, but if the data is already packetized
you might want to consider a different route. You can insert a sequence of known symbols
in the packet (pre-, mid- or postamble, eg. a CAZAC sequence). This sequence may then
be used for synchronisation and to estimate the channel impulse response and the frequency error.

>From the CIR estimate you can directly compute the optimal equalizer tap weights. This
involves the solution of a system of linear equations, which can be solved using eg.
the cholesky factorization.

This approach assumes that the channel remains constant throughout a single
packet (actually not necessarily, but it gets a bit involved if this restriction
is to be lifted).

I recommend you take a look into Meyr/Fechtel/Moeneclaey "Digital Communication
Receivers". Also, there are numerous publications about the MMSE-DFE for
packet operation by Al-Dhahir and Cioffi.

Tom

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

38. [hfsig] Re: MFSK mode Piccolo 2000

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Mon, 5 Jun 2000 22:37:59 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88733-2000.06.05-05.00.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Phil,

You are right about PSK31. I have never found a time when the QPSK
(convolutional coded) mode provides better performance than the raw DPSK
mode. The DPSK mode is also really poor on long path to Europe from here due
to the phase problems associated with fading (polar region instability).

There's another problem which I think limits the weak-signal performance of
PSK31 - reliance on demodulating the AM envelope for bit sync.

Still, PSK31 in the non-FEC DPSK mode is as you say, a whole lot better than
the present alternatives, and it has some nice features - really good
sensitivity, and narrow bandwidth. I am confident however that we can make
an MFSK mode with FEC that outperfoms PSK31 under conditions where coherent
detection is inappropriate.

Like you, I'm not so worried about bandwidth, although I am mindful of the
utility of a mode that is TOO wide. I have in mind developing a rag-chew
mode, and by necessity, until we are able to revise the bandplans, it needs
to be of modest width to find operating space at all.

One thing though, if the MFSK works out to be so good we can't hear it, how
will we know it's there, and how do we tune it in? That's fine for fixed
frequency links, but poses a problem for random QSOs.

I'll post a tentative spec for the new mode within the next 24 hours, and
you can pick holes in it!

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

39. [hfsig] Re: MFSK mode Piccolo 2000

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Mon, 5 Jun 2000 22:23:16 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88734-2000.06.05-05.00.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Moe,

In reply -

>Before i would want to get involved in development of a new mode i would
>like to have some clarification on some of the overall goals of such an
>endeavor

Quite right too! I have a tentative spec which I will post for everyone to
argue about. I'll post it maybe tomorrow - as soon as I have checked it.

Once we have all agreed that we are aiming for the same target we can get
started! I have had some really good advice already.

I'm pre-empting the suggested spec somewhat here, but here are answers to
your particular points:

I hope the new mode will be an improvement over PSK31 in some specific
applications. We won't know for sure until we get there, but my advice it
that is should be pretty good.

Yes, the intention (well, mine anyway) is to make a mode suitable for
rag-chew and net operation on HF, especially long path DX. Phil KA9Q
suggests ARQ options for file transfer, but that I think is a different
product we can look at later.

Yes, of course it will be a PC + Sound Card (and also hopefully Linux +
Sound Card) mode, and of course open sourced and open spec'd. Form that
point of view PSK31 has been a very sucesful model to follow.

The mode will be wider than PSK31, but still fits easily inside a "CW"
filter, ~250 Hz I hope. Linearity should be less of a problem compared to
PSK31, but will depend on how we shape the pulses for (a) filter matching
purposes, (b) sync recovery, and (c) bandwidth control. Yet to be
determined!

I expect the signal will be visible and tunable on a spectral display, and
it won't be much good for the planned purpose unless it is easy to tune and
also has modest latency. I'd like to see the latency below 2 sec.

If we really get serious about making this new mode, I guess we should make
our own email list. These work well, especially when something is being
designed by committee! In the mean time, HFSIG sounds like a good place -
who knows - we may unearth some interest or talent heretofore lying
untapped.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

40. [hfsig] Re: MFSK mode Piccolo 2000

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Mon, 05 Jun 2000 10:59:16 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88735-2000.06.05-05.01.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thomas Sailer wrote:
>
> I don't quite know what data you want to transmit, but if the data is already packetized

Well originally I was looking at 4285 but now I am looking at 5066 appendix G.
The work is on hold at the moment as I am working on a Linux based speech vocoder.

I think I sent you a copy of Appendix G, so you should know what I am referring to.

> This approach assumes that the channel remains constant throughout a single
> packet (actually not necessarily, but it gets a bit involved if this restriction

> is to be lifted).

It is an HF channel. Although I notice that TI in one of their data books use a
Kalman updated 3 tap feed forward, 1 tap feedback equalizer in their IS-54 implementation.

>
> I recommend you take a look into Meyr/Fechtel/Moeneclaey "Digital Communication
> Receivers". Also, there are numerous publications about the MMSE-DFE for
> packet operation by Al-Dhahir and Cioffi.

I haven't seen that book yet but I have heard good things about it. At the moment I am using
Adaptive Filter theory by Simon Haykin mainly because he has a list in the back of the book
that says what the Greek symbols he uses refer to, which saves me wading through the entire book.
I wish others would copy that!

Personally I prefer textbooks because they try to explain things, papers in general are vehicles
for the author to show how clever he is to his peers.

Actually the maths in itself is becoming my main interest in this, I am pretty much self taught
so it is a long process, but it is all worthwhile when I get a spark of inspiration and suddenly a
whole branch of the theory suddenly becomes understandable, I get a far bigger buzz from that than
I ever got from working rare DX!

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

41. [hfsig] Piccolo 2000 Tentative Spec

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Wed, 7 Jun 2000 17:53:01 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "MT63 Reflector" <MT63@onelist.com>
Message-ID: <LYR4070-89277-2000.06.07-02.35.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Folks,

Please read and comment, preferably via HFSIG@TAPR.ORG, so we all get to see
your comments.

Volunteers to do the necessary research, coding and testing should also put
their hands up in the same way (please).

73,

Murray ZL1BPU
==========

PICCOLO 2000 TENTATIVE SPECIFICATION
==========

An 8FSK mode for HF DX nets and rag-chewing. A platform on which to test
various associated data code and FEC techniques. Very low speed options
for weak signal LF and VHF use.

A. General Description
==========

An easy to use Amateur chat mode (suitable for nets, but not intended
for contesting), with comfortable typing speed and modest latency
(turn around time). Performance as good or better than existing
techniques for long-haul DX, such as long path 20 metres. Robust in
fading conditions and in moderate QRM such as is prevalent in Europe.
A very low speed option would provide good performance for LF or VHF
weak signal use where superior signal path stability can be assured.

It is believed that an M-ary FSK system can fulfill these requirements.

B. Transmission Technique
==========

Transmission to be based on 8FSK (8 tone sequential FSK), with continuous
phase (CPSK) tones shaped for reasonable bandwidth and if necessary to
allow data clock recovery. Transmission bandwidth to be preferably less
than 300 Hz when properly adjusted. Transmitter linearity requirements

to be modest.

The system is to offer symbol rates related to the tone spacing at
(tone spacing / n) baud steps where n = 2 to 8.

Transmission tones (and receiver as well) should be adjustable to suit
different transceiver IF filters. Low (~1kHz) and high (~2 kHz)
alternatives to be accommodated without change of actual tone spacing.

Bit stream oriented transmission, allowing convolutional code FEC,
Varicode and binary transfer options. This approach would also allow
data block transmission over sequential tones, such as is used in
Piccolo (two sequential tones per character).

The actual buad rate and coding technique in use should preferably
be obvious from the nature of the signal, or indicated by the receiver
software. I guess a fallback position would be CWID with mode. The fewer
the modes, the lesser the problem of course.

C. Receiver
==========

Receiver to use non-coherent demodulation, probably using an FFT filter
and demodulator, integrating the signal over the whole symbol tone
period by sampling the complete period. Decoder to use bit-wise soft
decisions and offer various data and FEC decoding options.

Decoder to provide tuning indication, AGC and AFC as well as signal
performance metering. This mode will be very sensitive, so consideration
needs to be given to accurately tuning inaudible signals.

The symbol rate (and FFT solution rate) should be settable at
(tone spacing / n) baud steps in concert with the transmitter, where
n = 2 to 8 to ensure orthogonality.

D. Other Requirements
====================

Symbol synchronisation using detected bitstream metrics or other
techniques not reliant on signal amplitude. A user interface with
the now-expected features such as waterfall display, point and click
tuning, signal strength and quality meters, separate TX and RX windows,
type-ahead buffer and simple macros.

Mode menu offering the different symbol rates and coding options.
CWID and a transmitter tuning signal. Transmit control via VOX or
serial port. Receiver squelch option.

E. Platform
==========

Pentium class PC with SB16 sound card or equivalent and VGA display.
Serial port PTT control as per GNR. Operating system Win95, 98 or NT.
Should operate on at least a Pentium 60. Design, specifications and
source code to be open. Parallel development of a Linux alternative
would be ideal. How about the Motorola EVM or the PTC-II?

User software to be copyright, all rights retained by the various
authors, but for free use by all Amateur users. No commercial or
military use permitted and no responsibility for damages or lack of
performance assumed.

F. Project Plan
==============

Following acceptance of this broad specification by those volunteers
involved in the project, a system block diagram would be issued and
agreed. At this point system software writer(s) and integrator(s) would
be selected or volunteer, and other jobs apportioned accordingly. The
integrator(s) would probably issue requests for suitable algorithms,
and a certain amount of testing and research would take place.

Also at this point a detailed specification for Phase 1 would be issued.
Specifications for Phase 2 and Phase 3 would follow discussion of
results of the previous stages.

Phase 1: a test platform with selectable baud rates, simple ASCII
coding and no error correction. Intended to optimise symbol
synchronisation and demodulator performance. User interface can be

incomplete.

Phase 2: a test platform for FEC and Interleave options. User interface should be reasonably complete, with creature features and tuning display. Metering (especially decoder metrics) should be operational. At this point a beta version might be released.

Phase 3: a released product for general Amateur use. This will be thoroughly tested and debugged, have optimised performance and a limited set of the best FEC, data code and baud rate options. This version will be fully documented prior to release. Hopefully performance comparisons with other codes will have been completed prior to release.

==========

Notes

1.
MFSK has very good performance on fading channels when using non-coherent demodulation. The performance improves as the number of channels (tones) increases. Because no assumptions of signal phase are made, provided the phase errors introduced by the path do not lead to excessive cross talk in the receiver filters, the technique is essentially immune to "Ionospheric Doppler" effects. The sensitivity and crud rejection of MFSK is also very good, since (a) the bandwidth per detected tone is low, (b) the signal is integrated over the whole symbol duration, and (c) the soft decision bitwise decoder provides best possible S/N of the result.

Typing speed of around 25 WPM would be adequate. Faster options would be preferable when conditions allowed. Slow alternatives for the QRP/LF/VHF folk.

2.
8 tone MFSK allows transmission of three bits per symbol. Tone spacing of 31.25 Hz would allow baud rates as high as 1/2T (15.625 baud - 47 bps) and a transmission bandwidth of about 300 Hz. 47 bps with a 5 bit data code and R=1/2 FEC coding would provide 4.7 characters / sec (47 WPM). Mere mortals would use lower baud rates to achieve better performance at more modest typing speeds.

Although not part of this specification, the transmitter, the receiver technique and the soft decoder would all permit n-of-8 tone operation, with improved throughput at a modest power penalty. For example 2-of-8 would allow at least 4 bits/symbol and 64 bps.

Also not part of this specification, addition of an ARQ layer would permit a similar mode to be used for very effective automatic link applications.

Speed suggestions are based on an 8 kHz sound card sample rate. Modest linearity requirements imply a certain tolerance of poor transmitter adjustment by amateurs who know no better (c.f. the problems with PSK31). Use of continuous phase tones with no AM would help in this regard.

3.
A bit stream receiver with soft decoding will allow very good FEC to be deployed. A R=1/2 K = 7 Viterbi system with very fast decoder is offered by Phil KA9Q. Interleaving is recommended.

Lower baud rates could be simply achieved by summing sequential results from the decoder prior to the soft decision point. This technique would of course require logic to decide which samples belonged together (correct samples will have high cross correlation).

4.
A "Costas Signal" synchronising system is suggested by Phil Karn KA9Q. This consists of a unique symbol sequence interleaved with the data that has a strong correlation response. Such a system is very robust in multi-tone orthogonal systems, and does not have any transmission symbol envelope shaping requirements. It also does not rely on an independent AM detector of lesser performance (c.f. PSK31). The system must cope with 0.1% sound card sampling rate errors.

The FFT receiver would also provide the information for a waterfall display, AFC, the signal strength meter (actually an Eb/No meter approximation), possibly squelch and a peak signal level for AGC use.

5.
Acceptance by the widest cross-section of the Amateur community
is more likely if the system requirements are universally available,
specifications and source are open, if the software exists on multiple
platforms, and is well documented and presented. Of course the coding
details must be made public in any case.

6.
All stages of the project should be open to comment. Volunteers are
sought for research, coding, system integration, UI design,
documentation, publicity and testing. Testing should include
ionospheric simulation tests (please note Johan KC7WW).

A closed Reflector might be started for detailed discussion of the
development by those who have agreed to have input or provide output.

Author:

Murray Greenman ZL1BPU
06/06/00

Note that the author is a digital mode enthusiast and technical writer,
not a whizzo digital signal processing or programming expert. The author
is prepared to coordinate and document the effort, and would prefer the
driving of the spec and the programming of this project to be coordinated
by folk with more experience.

All suggestions in this document are open to constructive criticism.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

42. [hfsig] Re: MFSK mode Piccolo 2000

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Wed, 07 Jun 2000 10:36:23 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89278-2000.06.07-03.39.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles H Brain wrote:

> I haven't seen that book yet but I have heard good things about it. At the moment I am using
> Adaptive Filter theory by Simon Haykin mainly because he has a list in the back of the book
> that says what the Greek symbols he uses refer to, which saves me wading through the entire book.
> I wish others would copy that!

Personally, I found that Haykin often makes simple things look difficult.

> Personally I prefer textbooks because they try to explain things, papers in general are vehicles
> for the author to show how clever he is to his peers.

I can't agree with the breadth of this statement. Some do, but many don't. I found the papers of
Aachen group (Meyr, Fechtel, Mehlan, Speth) and the papers by Al-Dhahir and Cioffi quite readable.

Anyway, I can recommend Fechtel's ICC'91 paper, which is even online:
http://www.ert.rwth-aachen.de/Projekte/Theo/papers/com:Fechtel91icc.ps.Z

Also, "MMSE-DFE: Finite-Length Results" is IMO worth looking at.

Tom

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

43. [hfsig] Re: MFSK mode Piccolo 2000 (DFE + Fractal)

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Wed, 07 Jun 2000 10:21:51 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89282-2000.06.07-04.24.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thomas Sailer wrote:
>
> Charles H Brain wrote:
>

> Personally, I found that Haykin often makes simple things look difficult.
>

Well I must admit, I had read someone else's book first and used Haykin as a checksum.

> > Personally I prefer textbooks because they try to explain things, papers in general are vehicles
> > for the author to show how clever he is to his peers.
>
> I can't agree with the breadth of this statement. Some do, but many don't. I found the papers of
> Aachen group (Meyr, Fechtel, Mehlan, Speth) and the papers by Al-Dhahir and Cioffi quite readable.
>

When I wrote that I had a big grin on my face. A lot of papers assume you have a tremendous background in the subject or access to a good reference library, I have neither.

> Anyway, I can recommend Fechtel's ICC'91 paper, which is even online:
> http://www.ert.rwth-aachen.de/Projekte/Theo/papers/com:Fechtel91icc.ps.Z

I will check that out.

Do you have any good references on fractal modulation ?

Having been playing around with sending data on a number of different Ham radios I have come to realize how great a diversity there is in the performance of different radios. I am wondering if fractal modulation would be a way of making a universal modem that will work on just about any radio, with varying degrees of performance. If I have understood what it is then it might be of some use. I am looking at a replacement for FSK1200 nothing special BTW.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

44. [hfsig] Piccolo 2000 Specifications

From: "Michael Pastorcich" <kf4hey@hotmail.com>
Date: Wed, 07 Jun 2000 09:39:47 PDT
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89355-2000.06.07-11.43.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

All,

I am delighted to see this proposed new mode that incorporates some features that will benefit a broader section of the amateur community. The use of full symbol-time integration will certainly improve S/N and this should compensate those hams that do not have gain antenna systems or those who must endure reduced performance due to antenna restrictive, neighborhood covenants. Also with the fading of Cycle 23, this mode should keep some life in ham radio given the potential for working DX despite reduced propagation.

I will volunteer to help with some simple testing and assist with project coordination and working group communications.

Suggestions:
1. At the end of Phase 1, a simple "stripped down" version without the whistles and bells be issued for those hams without the necessary PC performance for the Phase 3 version. Call it Piccolo Lite.

2. A provision coupled with the AFC that will compensate for the slight Tx and Rx center frequencies in many SSB transceivers. My old Ten-Tec Omni 546 has ~20Hz offset between Tx and Rx in addition a slight Tx drift. This offset results in "leapfrogging" with the narrow band modes such as PSK31 and Throb.

I look forward to the first on-air tests.

73 de Mike KF4HEY

_____
Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

45. [hfsig] RE:Piccolo 2000 Tentative Spec

From: mwheatle@trsystems.com
Date: Wed, 7 Jun 2000 13:03:00 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: coombedn@ihug.co.nz
Message-ID: <LYR4070-89365-2000.06.07-12.07.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How well does MT63 function compared to PSK31? I have not played with it but it appears if M-FSK is the answer to multipath and weak signal work, then MT63 should be much better. It appears to be a slimmed down version of the "super HF" mode envisioned by Phil back in '94. I think all it lacks is the convolutional coding. Why has it not taken over PSK31? I believe there was some issues on it's width but it has a 500Hz mode that is close to what is being proposed.

If MT63 does not provide significantly more horsepower, then how is an 8-ary FSK system going to do better?

Don't mean to dampen any discussions but I'd hate to be reinventing the wheel if an existing mode with maybe some tweaking is all that is needed.

moe

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

46. [hfsig] RE: Piccolo 2000 Specifications

From: DuBose Walt GS-12 AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Wed, 7 Jun 2000 13:02:14 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89383-2000.06.07-13.05.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If I might make a request for this new mode...and I must say that using an SB16 soundcard is certainly the right path...but, PLEASE write it for Linux as well as windows. As "experimenters", we ought to be using a more robust, open operating system than relying on a proprietary OS...it just goes against the grain of what you are doing...building your own modem rather than letting an OEM do it.

Also, hopefully you will make it where you can send a file. I was privy to a conversation in Washington D.C. back in April and the topic of the usefulness of amateur radio to the U.S. Federal Government. The consensus of that group if was that it (amateur radio) was not that useful because it couldn't send "computer files" very fast and without lots of errors. Maybe this protocol can correct the situation.

Walt/K5YFW

-----Original Message-----
From: Michael Pastorcich [mailto:kf4hey@hotmail.com]
Sent: Wednesday, June 07, 2000 11:40 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Piccolo 2000 Specifications

All,

I am delighted to see this proposed new mode that incorporates some features

that will benefit a broader section of the amateur community. The use of full symbol-time integration will certainly improve S/N and this should compensate those hams that do not have gain antenna systems or those who must endure reduced performance due to antenna restrictive, neighborhood covenants. Also with the fading of Cycle 23, this mode should keep some life in ham radio given the potential for working DX despite reduced propagation.

I will volunteer to help with some simple testing and assist with project coordination and working group communications.

Suggestions:
1. At the end of Phase 1, a simple "stripped down" version without the whistles and bells be issued for those hams without the necessary PC performance for the Phase 3 version. Call it Piccolo Lite.

2. A provision coupled with the AFC that will compensate for the slight Tx and Rx center frequencies in many SSB transceivers. My old Ten-Tec Omni 546

has ~20Hz offset between Tx and Rx in addition a slight Tx drift. This
offset results in "leapfrogging" with the narrow band modes such as PSK31
and Throb.

I look forward to the first on-air tests.

73 de Mike KF4HEY

_____
Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com

---
You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

47. [hfsig] RE:Piccolo 2000 Tentative Spec

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 7 Jun 2000 11:31:41 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89388-2000.06.07-13.34.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Moe,

A few comments for what it's worth ...

I have run HF channel simulator tests that shows how MT63 and PSK31
compares as far as end user is concerned (not quite how engineers
draw comparisons based on Eb/N0). Both these modes are very good, but I'll
lay my money on MT63 when dealing with really bad/fluttery paths.
see http://www.peak.org/~forrerj (on Recent Advances)

There is this apparent problem of MT63's bandwidth and the politics that
stirs up when you deal with the narrow-bandwidth folks. It's really two
antipodes of expectations, nothing to do with technical merit at all.

What gained PSK31's popularity (in my opinion) was that it had a
Windows/soundcard option very early, and the Internet made distribution of
code very easy, then also that it was open source which got folks into
developing more bells and whistles. It takes time for any such
development to mature. MT63 lagged behind this kind of effort from the
beginning ... only recently have we seen it expand to GUI-based
options.

OK, now based solely on technical merit (IMHO); MT63 has a lot more to
offer than PSK31 (time and frequency diversitity.) It does have, however,
have room for improvement (multitone channel equalization, better coding
strength, better pre-FFT subsampling, better weak signal sync.), which
would result in either higher throughput rates or more robustness. It will
probably remain a "massively" parallel tone system which is at the other
end of sophistication. The 8-ary FSK proposal is really something
inbetween PSK31 and MT63. As I see it; a lot simpler, with modest
expectations, perhaps a stepping stone for people toward greater and
better things. Who knows, the general ham public might even be interested
if it works well and looks like fun? If it runs on Windows/soundcard it
and a few "gee wizz" articles in QST, it may just be.

I'm all for encouraging development if it offers a chance for us all to
learn something new. At the recent ARRL Ham Radio Convention, we were told
by ARRL's legal advisors to the FCC that this field of technical
innovations are to be encouraged as much as possible because that's where
the future of ham radio is heading ... we really have all the support from
the authorities we need --- It is only within ham circles where the
politics and misconceptions have the upper hand.

73,

Johan, KC7WW

On Wed, 7 Jun 2000 mwheatle@trsystems.com wrote:

>
> How well does MT63 function compared to PSK31? I have not played with it

> but it appears if M-FSK is the answer to multipath and weak signal work,
> then MT63 should be much better. It appears to be a slimmed down version of
> the "super HF" mode envisioned by Phil back in '94. I think all it lacks is
> the convolutional coding. Why has it not taken over PSK31? I believe there
> was some issues on it's width but it has a 500Hz mode that is close to what
> is being proposed.
>
> If MT63 does not provide significantly more horsepower, then how is an 8-ary
> FSK system going to do better?
>
> Don't mean to dampen any discussions but I'd hate to be reinventing the
> wheel if an existing mode with maybe some tweaking is all that is needed.
>
> moe
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

48. [hfsig] RE: Piccolo 2000 Specifications

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 8 Jun 2000 08:12:27 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89399-2000.06.07-14.34.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt - check the tentative spec!

It's all there...

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

49. [hfsig] Piccolo

From: Anthony Martin <anthony.n.martin@marconicomms.com>
Date: Wed, 07 Jun 2000 21:49:19 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89414-2000.06.07-15.53.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm still looking for definitive info on what piccolo modulation is.

I found the following extract which might be interesting.

```
   PICCOLO    Originally developed in 1957 in Great Britain at the
   MK6/MK10   Diplomatic Wireless Service or as it is known today the
              Communication Engineering Department of the British
              Foreign and Commonwealth Office (FCO). The original
              system was a 32 tone system and the development team
              was lead by J.D.Ralphs.

              There is a 6 tone system (MK6) using ITA2 and a 12 tone
              system (also MK6) using ASCII/ITA5 but the 6 tone system
              is the more common. The 6 tone system is used mainly by
              the British Gov., Australian Gov. stations and Chilean
              Military. The 12 tone system is used mainly by the
              British Gov.

              Both of the above systems normally run at 20bd but a
              40bd, double speed variant, known as PICCOLO MK10 has
              been reported in use by British Gov. PICCOLO MK10 uses
              6 tones, a special alphabet and different standby
              tones. Both 20bd systems can still be found on the air
              and the modern MK6 unit is manufactured by RACAL. The
              40bd system is rarely found at this time. Reference the
```

> Klingenfuss RadioTeletype Code Manual 13th Edition for
> the tone pairs and PICCOLO MK6 alphabet.
>
> For tuning purposes on a 6 tone PICCOLO MK6 signal,
> zero between tones 3 and 4, on a 12 tone PICCOLO signal
> zero between tones 6 and 7. A PICCOLO signal only has a
> 20Hz shift between tones so precise tuning is important
> and the ability to magnify a signal is a great feature.
> Inexact tuning will induce translation errors.

I take it the on-air rate is 20 symbols/second for 20Hz tone spacing.
The 40 baud version I assume has 40 Hz tone spacing.

I assume the alphabet of 2-of-6 is chosen such that intermodulation
products never fall on another tone, as that would severely affect
performance, giving an 8 symbol alphabet. This means that the tone
pairs are never closer than 40 Hz. OTOH this guarantees that IMDs
fall out-of-band, widening the occupied BW.

It strikes me that the 2-of-6 tone system is perhaps the worst
conceivable from the POV of peak-to-mean, reducing ERP and hence
SNR by 6dB. An 8-ary system takes 33% more BW, delivers the same
bits/symbol and achieves 5dB more SNR. But I suppose it was fine
for the old SSB valve transmitters that would happily deliver
large transients over the rated output when asked.

What's proposed as `Piccolo 2000' doesn't resemble Piccolo much.

I don't see that much performance advantage could be obtained
over the analogue FSK implementations. Even the analogue RTTY
modem I did many years ago had AFC. RTTY has always worked on
signals inaudible in 3kHz noise.

Parallel tone and low-rate PSK or DPSK modems don't perform well in
flutter fading so probably aren't a wise choice for the application;
such channels would be usable for morse. Choice of non-coherent FSK
does resolve this issue.

IMO a chirp waveform would provide best performance for weak
signal / long path / presence of QRM work. Are there any available
chirp modem standards, or are all the chirps proprietary? Perhaps
you could look out for any papers on chirp modems. Chirps are
amenable to high performance using the features of DSP.

There is also a model of POTS modem called the Piccolo; confusing.
Any ham searching for Piccolo on the net is in for trouble.

On the subject of computer platform; there seem to be a lot of
worries about which platform/which OS/cost of compilers.
Why should this be an issue?

No-one seems to understand that there are good ways of developing
software that is platform-portable. Write it in C and use toolkit APIs
that are platform-portable. Tcl/Tk plus the SNACK extension will
provide C APIs for GUI and audio I/O independent of the OS. So
you should never need to write a line of platform-specific code.
Unix, Windows & Mac are supported. These APIs are free and source is
available and compiles on GCC, VC++ and Mingw. Everything has a
documented C API as well as the Tcl script API. Either link your C
code with the libraries or load it as dynamic library into a running
Tcl shell.

Scripting GUIs is much quicker than VC++, I've used Tcl/Tk scripted
GUIs myself for modem testing, monitoring and graphing internal
behaviour real-time. I tend to use object-oriented itcl which comes
with even more powerful lumps of GUI.

http://dev.scriptics.com/software/
http://www.speech.kth.se/snack/

There are also data visualisation toolkits that might add spice,
or just less for programmers to write. I'm all in favor of software
reuse!

One thing this won't do is put it in the linux kernel. But this is

hardly a wireless networking modem...

Ant
--
_____

A.N.Martin anthony.n.martin@marconi.com www.marconi.com
Snr. Development Engineer Tel. 01245 353221 x4995
Radio Systems Engineering Fax. 01245 275818
Marconi Mobile, Marconi House, New St. Chelmsford, UK
_____

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

50. [hfsig] Re: Piccolo

From: DuBose <dubose@texas.net>
Date: Wed, 07 Jun 2000 19:55:37 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89455-2000.06.07-19.58.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The first I ever heard of PICCOLO was back in the Cold War days (mid '70s to late '80s)
when NATO developed a VERY ROBUST system that was suppose to be able to allow relative
low power slow speed communications immediately after the a thermo-nuclear explosion.
As I recalled, it was simply refered to as "Piccolo Communications"

Walt

Anthony Martin wrote:

> I'm still looking for definitive info on what piccolo modulation is.
>
> I found the following extract which might be interesting.
>
> PICCOLO MK6/MK10 Originally developed in 1957 in Great Britain at the
> Diplomatic Wireless Service or as it is known today the
> Communication Engineering Department of the British
> Foreign and Commonwealth Office (FCO). The original
> system was a 32 tone system and the development team
> was lead by J.D.Ralphs.
>
> There is a 6 tone system (MK6) using ITA2 and a 12 tone
> system (also MK6) using ASCII/ITA5 but the 6 tone system
> is the more common. The 6 tone system is used mainly by
> the British Gov., Australian Gov. stations and Chilean
> Military. The 12 tone system is used mainly by the
> British Gov.
>
> Both of the above systems normally run at 20bd but a
> 40bd, double speed variant, known as PICCOLO MK10 has
> been reported in use by British Gov. PICCOLO MK10 uses
> 6 tones, a special alphabet and different standby
> tones. Both 20bd systems can still be found on the air
> and the modern MK6 unit is manufactured by RACAL. The
> 40bd system is rarely found at this time. Reference the
> Klingenfuss RadioTeletype Code Manual 13th Edition for
> the tone pairs and PICCOLO MK6 alphabet.
>
> For tuning purposes on a 6 tone PICCOLO MK6 signal,
> zero between tones 3 and 4, on a 12 tone PICCOLO signal
> zero between tones 6 and 7. A PICCOLO signal only has a
> 20Hz shift between tones so precise tuning is important
> and the ability to magnify a signal is a great feature.
> Inexact tuning will induce translation errors.
>
> I take it the on-air rate is 20 symbols/second for 20Hz tone spacing.
> The 40 baud version I assume has 40 Hz tone spacing.
>
> I assume the alphabet of 2-of-6 is chosen such that intermodulation
> products never fall on another tone, as that would severely affect
> performance, giving an 8 symbol alphabet. This means that the tone
> pairs are never closer than 40 Hz. OTOH this guarantees that IMDs
> fall out-of-band, widening the occupied BW.
>
> It strikes me that the 2-of-6 tone system is perhaps the worst
> conceivable from the POV of peak-to-mean, reducing ERP and hence

> SNR by 6dB. An 8-ary system takes 33% more BW, delivers the same
> bits/symbol and achieves 5dB more SNR. But I suppose it was fine
> for the old SSB valve transmitters that would happily deliver
> large transients over the rated output when asked.
>
> What's proposed as `Piccolo 2000' doesn't resemble Piccolo much.
>
> I don't see that much performance advantage could be obtained
> over the analogue FSK implementations. Even the analogue RTTY
> modem I did many years ago had AFC. RTTY has always worked on
> signals inaudible in 3kHz noise.
>
> Parallel tone and low-rate PSK or DPSK modems don't perform well in
> flutter fading so probably aren't a wise choice for the application;
> such channels would be usable for morse. Choice of non-coherent FSK
> does resolve this issue.
>
> IMO a chirp waveform would provide best performance for weak
> signal / long path / presence of QRM work. Are there any available
> chirp modem standards, or are all the chirps proprietary? Perhaps
> you could look out for any papers on chirp modems. Chirps are
> amenable to high performance using the features of DSP.
>
> There is also a model of POTS modem called the Piccolo; confusing.
> Any ham searching for Piccolo on the net is in for trouble.
>
> On the subject of computer platform; there seem to be a lot of
> worries about which platform/which OS/cost of compilers.
> Why should this be an issue?
>
> No-one seems to understand that there are good ways of developing
> software that is platform-portable. Write it in C and use toolkit APIs
> that are platform-portable. Tcl/Tk plus the SNACK extension will
> provide C APIs for GUI and audio I/O independent of the OS. So
> you should never need to write a line of platform-specific code.
> Unix, Windows & Mac are supported. These APIs are free and source is
> available and compiles on GCC, VC++ and Mingw. Everything has a
> documented C API as well as the Tcl script API. Either link your C
> code with the libraries or load it as dynamic library into a running
> Tcl shell.
>
> Scripting GUIs is much quicker than VC++, I've used Tcl/Tk scripted
> GUIs myself for modem testing, monitoring and graphing internal
> behaviour real-time. I tend to use object-oriented itcl which comes
> with even more powerful lumps of GUI.
>
> http://dev.scriptics.com/software/
> http://www.speech.kth.se/snack/
>
> There are also data visualisation toolkits that might add spice,
> or just less for programmers to write. I'm all in favor of software
> reuse!
>
> One thing this won't do is put it in the linux kernel. But this is
> hardly a wireless networking modem...
>
> Ant
> --
> ____
>
> A.N.Martin   anthony.n.martin@marconi.com   www.marconi.com
> Snr. Development Engineer   Tel.   01245 353221 x4995
> Radio Systems Engineering   Fax.   01245 275818
> Marconi Mobile, Marconi House, New St. Chelmsford, UK
> ____
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

--
Please view The DuBose Home Page at URL: http://dubose.home.texas.net

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

51. [hfsig] RE:Piccolo 2000 Tentative Spec

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 8 Jun 2000 18:45:59 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89501-2000.06.08-01.08.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan,

Yes, you said it well. The expectations of an 8FSK mode are more modest than a massively parallel wideband mode, but should provide a simple rag-chew performance better than PSK31.

I think that it is the accessability (PC with sound card, open protocol and multiple platform) and simplicity of operation that are the key issues, probably more so than actual technical performance.

While the gurus will enjoy messing with super OFDM wideband modes for data transfer, and maybe they have a role for ARQ operation, but Joe Ham who enjoys a digital QSO for the pleasure of it wants reasonable performance, fun, something slick and quick to use, without too much need to learn how to make it all go.

I'm pleased to hear that the FCC are waking up to our efforts.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

52. [hfsig] Re: Piccolo

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 8 Jun 2000 19:42:40 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89506-2000.06.08-02.07.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony,

Your summary of Piccolo in all its many versions is essentially correct, but you have missed the important point - Piccolo is a ONE of MANY tone system, not two of many like DTMF.

Yes, in the later versions, Piccolo uses two tones per character, but they are SEQUENTIAL. There is no IMD problem, and in fact a class C TX with square tones is used. Check on the HOKA website - there are spectrograms of the signals.

The choice of tone frequencies and spacing have nothing to do with IMD. They are chosen so that the sinx/x frequency domain response of each tone falls "down the cracks" of the next, i.e., the tones are orthogonal, spaced by multiples of the baud rate. In an original Piccolo paper, they describe the same effect in the time domain. The response of the "integrate and dump" RX filters to an adjacent tone will be orthogonal when there is a null in the response at the end of the symbol, and this occurs when the baud rate and spacing are as described.

Piccolo 2000 differs from the original in a few ways, as you suggest:

1. Different tone spacing and baud rate, to suit the PC sound card and keep the signal within a CW filter.
2. The use of a bit stream defining three bits per symbol (if 8 tones are used), adding coding flexibility rather than tying the system down to two tones per character. This does not prevent running a two-tone sequential Piccolo code over the system.
3. The proposed use of Costas Signals for framing, rather than AM, because it will be more sensitive.
4. The proposed use of convolutional code FEC for improved QRM performance.

Other differences are those of implementation in DSP, with improved performance, such as the use of FFT RX and constant phase TX tones.

You need to read the texts for the advantages of M-ary non-coherent FSK. In essense the performance improves as the number of tones increases. PSK or

M-ary PSK is not suggested for this mode for the reason that they require
coherent demodulation, which is not appropriate in the presence of fading.
M-ary PSK performance decreases when more tones are added.

While M-ary FSK will be affected by fading in terms of missing symbols, the
effect of doppler cross-talk is small. Missing symbols can be recovered
using a good FEC system.

The best place to research Piccolo is the local University Electrical
Engineering School library. All the useful papers were published in Proc
IRE. I agree there is a load of junk on the internet!

What I'm after is not the world's best modem - I'm after something that
performs well, is easy to use, and also fun to use, and Joe Ham will use it
for these reasons alone.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

53. [hfsig] Re: MS-110A/B

From: Anthony Martin <anthony.n.martin@marconicomms.com>
Date: Fri, 09 Jun 2000 12:39:35 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89715-2000.06.09-06.48.25--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FS-1052 is on-line at http://www.its.bldrdoc.gov/fs-1052/

The Mil-Std-188-110A is identical.

I don't have any info about 110B.

I have an electronic copy of Stanag-5066 annexG obtained from the
net.

The higher rates of these modems are only usable on good links.
I'm suprised if anyone believes otherwise. Many good links are
in use and modems that can make use of that are a good thing.
Not everyone needs comms with the other side of the globe. In
mountainous terrain people resort to HF for links as short as
50km.

Modems for HF need to keep pushing higher rates if it is to remain
commercially viable. It's already a poor man's alternative to other
methods such as satellite and often relegated to backup duty. Maybe
we'll see more interest in troposcatter.

>From the point of view of amateur use of these modes, everyone's
waiting for Rob McGuire to release his 110A code - I don't know what's
happening there. There's sure to be activity to extend it with the
9600 modes, STANAG-4285 and 4529, and porting to other platforms.
If amateurs don't do it then companies that want to use the codebase
will do it, and as it's GPL code, that work also becomes GPL.

Ant
--
A.N.Martin   anthony.n.martin@marconi.com   www.marconi.com
Snr. Development Engineer   Tel.   01245 353221 x4995
Radio Systems Engineering   Fax.   01245 275818
Marconi Mobile, Marconi House, New St. Chelmsford, UK

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

54. [hfsig] Re: Piccolo 2000 Tentative Spec

From: "Willmore, David (VS Central)" <WILD4@aerial1.com>
Date: Fri, 9 Jun 2000 11:29:18 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89754-2000.06.09-10.32.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

One thing that ZL1BPU got me thinking on his last email when he said:

"While M-ary FSK will be affected by fading in terms of missing symbols, the
effect of doppler cross-talk is small. Missing symbols can be recovered
using a good FEC system."

I had a flashback to my ECC class. If you can tell me a symbol is
questionable, a RS decoder can give you twice the error tolerance. You can
think of it this way: With a certain degree of redundancy, you have so many
units of free distance between valid code words. To detect an error, you
take up one unit of free distance. To correct it, you need another. If you
can get the detection (or hints at it) for free, you can save the unit of
free distance needed for the detection part.

Now, this is *grossly* oversimplified and probably someone will point out
that it's completely wrong, but the point is you can get a lot better
performance out of RS if you can give it hints at what symbols to 'erase'.
People often use the path metrics out of a Viterbi decoder to make guesses
at what symbols to erase in the outer RS decoder.

Just a little FFT (Food For Thought).

Cheers,
David N0YMV

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

55. [hfsig] Piccolo book

From: Tom Jansen <tomj@telebyte.nl>
Date: Fri, 09 Jun 2000 21:50:59 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89818-2000.06.09-14.50.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear Readers,

Regarding the piccolo mode I would like to add the following.

In the past there has been published a very fine book about the
piccolo mode:

Principles and practice of multi-frequency telegraphy.
By J.D. Ralphs
ISBN 0-86341-022-7
First published 1985 by Peter Peregrinus Ltd, London, UK
205 pages

It's a very fine book with a technical indept look in the piccolo mode
how it was devolped and how it works.
The book has a lot of diagrams and drawings.

I guess it will be very hard to get these days.

Regards,

Tom Jansen.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

56. [hfsig] Re: Piccolo book

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Fri, 09 Jun 2000 21:11:24 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89825-2000.06.09-15.13.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tom Jansen wrote:
>
> Dear Readers,
>
> Regarding the piccolo mode I would like to add the following.
>
> In the past there has been published a very fine book about the
> piccolo mode:
>
> Principles and practice of multi-frequency telegraphy.
> By J.D. Ralphs
> ISBN 0-86341-022-7
> First published 1985 by Peter Peregrinus Ltd, London, UK
> 205 pages
>
> It's a very fine book with a technical indept look in the piccolo mode
> how it was devolped and how it works.
> The book has a lot of diagrams and drawings.
>
> I guess it will be very hard to get these days.
>
> Regards,
>
> Tom Jansen.
>

If it is the book I saw a few years ago, it is mainly analog, not a DSP
in sight. Still Interesting though.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

57. [hfsig] Fw: Piccolo 2000 Tentative Spec

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 10 Jun 2000 11:00:29 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89853-2000.06.09-17.31.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----Original Message-----
From: Peter Martinez <Peter.Martinez@btinternet.com>
To: Coombe Down <coombedn@ihug.co.nz>
Date: Saturday, June 10, 2000 06:25
Subject: Re: Piccolo 2000 Tentative Spec

>Murray:
>
>I am not a subscriber to HFSIG, so I offer my comments direct to you.
>There's no pattern to these comments: some are constructive.
>
>1. The big problem with Piccolo as an amateur chatting-mode (and I
>have tried it) is it's long lock-in time at the start of an over. As
>I showed with PSK31, keeping the aquisition time short is a real
>requirement for one-to-one real-time working, which is a requirement
>unique to amateur radio. Piccolo Mk6, like AMTOR FEC, needs an idle
>sequence to aquire the signal: you should really have a system such
>that any listener can lock in at any point during a transmission. I
>think this means ruling-out a block-oriented character code in favour
>of something like varicode.
>
>2. Keeping the amplitude constant so that users may overdrive the
>soundcard sounds like an attractive aim, but remember that doing so
>means that the symbol sync has then to be done without the otherwise
>cost-free amplitude information. That is, the symbol-sync will have a
>cost. In the case of PSK31 the amplitude modulation served a dual
>purpose, namely that of symbol sync and making the spectrum finite.
>With N-FSK the spectrum is N times wider and it's probably not worth
>windowing the transmitted symbols to keep their width down
>individually: Piccolo never did. So the amplitude information would
>ONLY be serving a symbol-sync function. Piccolo Mk.1 used 10%
>amplitude modulation for symbol sync. and this was discarded in Mk.
>6. where the symbol sync is recovered from the data transitions. As
>an aside, I don't think it's fair to say that PSK31 relies for symbol
>sync on "an AM channel of lesser performance". The AM channel only
>supplies one symbol-worth of information per transmission so it

>doesn't need to perform.
>
>3. On the subject of symbol sync from data transitions, it's
>interesting to note that by adding one more tone, you can convert a
>one-of-N code into a one-of-N+1 code that transits on every symbol
>boundary. A 1-of-7 code could therefore be transformed into a 1-of-8
>which could be synchronised without amplitude modulation, regardless
>of the traffic pattern. Such a code is also less sensitive to
>multipath echoes since the receiver can be designed to ignore the
>channel containing the one-symbol-delayed echo of the previous
>symbol: the next symbol will always be one of the other seven. A
>7-ary varicode, rather than a binary one as is used in PSK31, could
>easily be invented for MFSK use.
>
>4. On the same subject, I note that Piccolo always has the tone
>spacing equal to the baudrate, but many amateurs discussing MFSK are
>thinking of wider tone spacing than this. There are multipath reasons
>for going wider but this can be solved in other ways (see above) and
>we don't need to be frightened of working right on the Nyquist limit.
>If we do stick to the spacing=baudrate philosophy and go for
>phase-continuous keying, we can derive the symbol timing from the
>channel phases. This then gives us the bonus of free symbol sync from
>the phase information to add to the data recovered from the amplitude
>information, a neat analogy to the dual process in PSK31 whereby you
>get the data from the phase and free sync from the amplitude. If you
>go away from the spacing=baudrate idea, you can only do this trick if
>you have the channel tone phases locked to the symbol clock rather
>than to the channel-spacing clock, which means keying that is not
>phase-continuous and therefore rather wide.
>
>5. You mentioned FEC and convolutional coding. We may need to study
>M-ary convolutional coding very carefully to avoid pitfalls: there is
>very little published on this and there may not be any optimum
>solutions. If soft-decision Viterbi decoders are to provide useful
>results we need to establish a realistic code-distance metric. With
>N-PSK we can say that the most probable error is that in which one
>symbol is corrupted to the nearest legal point in the phase-plane,
>but it's not true to say that the most probable error in an MFSK
>system is to an adjacent frequency tone of the MFSK tone-set. It may
>be neccesary to do some real virgin-territory work BEFORE deciding on
>an FEC system at all. I don't know what FEC system (if any) is used
>in ALE. They sound to me as if they just repeat the data a million
>and one times and vote!
>
>6. Be wary of the high code latency with convolutional codes and
>Viterbi decoders. I showed that high traffic latency is a turn-off
>for a chatting-mode. A k=7 Viterbi decoder would have an end-to-end
>latency of about 140 symbols, or about 3 secs at your 47 baud. Surely
>that's unacceptable for chatting. I don't know what Phil Karn means
>by "fast Viterbi decoder" but I suspect he means fast speed of
>computation, not short latency.
>
>7. Think about the operational problems of users wishing to switch
>from one coding to another during a QSO. I believe it is socially
>unacceptable in amateur radio that a link should increase it's
>spectrum width significantly after establishing contact at it's
>initial width. So if we identify that users may wish to change from
>straight coding to FEC within a QSO, we need to think of the effects
>that a change in bandwidth might have. In PSK31 it's OK to change to
>QPSK without having to find a wider channel. With an 8-ary MSFK
>system, for example, if we wanted to double the raw bitrate by
>doubling the baudrate with the same number of tones, the spectrum
>width stays almost the same but the signal may suffer from multipath.
>If we wanted to avoid the multipath penalty and keep the baudrate the
>same and double the throughput by increasing the number of tones, we
>need to increase the spectrum width by a factor of 8 (64 tones=6bits
>compared to 8 tones=3bits). MFSK, it seems, can only deliver it's
>full potential if we don't need to worry about how much spectrum you
>take up.
>
>8. Think about the moral implications of proposing systems like MFSK
>which are inherently spectrum inefficient. You know my thoughts on
>MT63. It is possible to imagine MFSK taken to it's extreme and fill a
>3 kHz SSB channel, heavily error-protected, and demonstrate an
>impressive resilience to QRM. This could be an attractive feature in
>the short term but leads in the longer term to the anti-social and
>ultimately self-defeating scenario that I have warned might happen
>with MT63.
>

>9. On a non-technical level, managing a project like this, with a
>group in which there is no hierarchy, is an extremely difficult task.
>In the worst case you might find it collapses or fragments because of
>inability to agree, or at the other extreme you end up with a camel
>(a camel is defined as a horse designed by a committee), and end up
>with a system which everyone will tolerate but no-one thinks is the
>best. Most successful amateur projects have been done by one man, not
>by a big team. Radio Amateurs are clearly individuals and not
>naturally co-operative. It would take a special kind of leader to
>make us produce a joint result, especially if the method of pooling
>the effort was only by internet and not by face-to-face interactions.
>
>Copy this to whoever you wish, including HFSIG if you think that
>would be useful. I couldn't take part while my current project is
>active (See RadCom July 2000) and while I don't have a Pentium or W95.
>
>73
>Peter
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

58. [hfsig] Re: Piccolo 2000 Tentative Spec

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 10 Jun 2000 11:01:09 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89855-2000.06.09-17.32.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Peter,

Thanks for your considered response. I'll reply to your numbers.

1. I agree. The new mode needs to be "slick". I think we can improve the lock-up time wrt Piccolo, first by using a bit stream rather than symbol pairs, and secondly by using a Costas Signal system to acquire lock. I realise it will add overhead, but "slickness" is all important. Thanks to Phil Karn for that suggestion. Varicode will achieve a similar result, and I'm in favour of that approach too. The varicode in effect includes a "Costas Signal" in the unique inter-character bits. I think it may need a small tweak (say by defining a second idle character) to ensure that the framing is recognised no matter which bit weight it has. Something to test.

2. Yes, there is a cost in not using amplitude for sync. The obvious cost is in throughput. However, I am hoping that using the main demodulator and decoder to provide the data for framing will give consistent and hopefully more sensitive results. OK on the AM sync in PSK31. It was my feeling that it is a little noise prone, but as you point out, the data it needs to provide is very limited, and besides, using a software PLL gives very narrow bandwidth and good noise rejection.

I'm not against raised cosine envelope by any means, and I still wonder about that, but the sidebands need to be carefully stepped around. The sinx/x response of square pulses does at least provide a null at 1/nT spacing. It is interesting to compare the time domain discussion of this in the original Piccolo paper to the modern frequency domain one in Tom N5EG's book. The result is of course equivalent.

3. Yes, I spotted the possibility of 1 of n+1. The cost is of course in bandwidth, rather than throughput, but I like it, as it is really simple. I had imagined a symbol set with redundancy that made it obvious when sync had been achieved. I suspect my thinking as at cross-purposes with yours, as I'm not sure I understand your point about one-symbol-delayed echo. I understand the idea of a 7-ary varicode, but could you please explain in detail what you meant? This could be the answer we need.

4. Yes, using an FFT for receive and phase continuous tones, I am sure we can achieve 1/T spacing. The tones will be orthogonal, and I think the ionosphere will need to be very bad to cause sufficient cross-talk to be a problem. Phil Karn made a great suggestion - the decoder should not simply assume the strongest channel to be the one with the current (say 3 bits) of data - each bit should be weighed independently by adding the power from each channel that could be expected to have that bit weight (say tones 1,3,5 and 7 for the LSB), and subtracting the power from the other channels (say 0,2,4 and 6). In each case there are of course four of each, and the result

will have better S/N and better rejection of ionosphere induced cross-talk.

I'd like to hear how you propose recovering symbol sync from the carrier phase.

5. Yes, I agree that there is little available on the use of convolutional codes for MFSK, and apparently little experience. Something really useful can be done here in the way of analysis and practical tests. The need to recover missing symbols (especially with selective fading or carrier QRM), and the need to choose a good interleaver are bound up in this too.

One of the main ideas of the development is to create a platform on which the metrics of the FEC systems tested can be accurately assessed for performance. Both Phil and Charles G4GUO have I believe done work on ALE so I hope to have good advice. You are right though - we may find an M-ary FSK system good enough for the purpose of casual QSOs that we don't need FEC (shock, horror Phil!) Ideally the system would be versatile enough to offer alternatives.

6. Accepted. Latency is a worry. Slick-ness with errors is generally preferable to sluggishness with fewer errors (as the acceptance of PSK31 over MT63 has proved, although there are other issues!). As I mentioned before, I'm not personally sold on high-K codes.

I am sure Phil's "fast Viterbi" does mean fast computation, and that wins us nothing if the latency is due to waiting for sufficient symbols to arrive, rather than actual computation time, which is of course the case. It's still nice to have a fast decoder so the PC has time for other things.

7. I agree with you. I would not want to change bandwidth during a QSO either. I imagine the QSO might start with a modest FEC system as default, and if conditions prove to be good, the throughput could be improved by switching off the FEC (no change in bandwidth) or if poor by making it stronger but slowing the QSO. There remains the problem of the listener identifying which option is in use, so obviously we need to keep the final options offered to a minimum.

We do exactly this now with Hellschreiber (especially PSK-Hell), where the default font is readable under most conditions, but we select "DX Mode" for poor conditions and change to a really tiny font and type really fast if conditions are good. Of course in the case of MFSK there are changes to be made at the RX as well, so it won't be that simple. I wonder if there is an easy way of signalling in the coded signal which coder is in use? Obviously decoding all the options would achieve the same result, if we had the computer power.

8. I understand your thoughts on bandwidth and especially your thoughts on MT63. I realise that we can communicate efficiently in 50 Hz bandwidth, but if we can communicate better under some conditions by using 500 Hz bandwidth, then I don't consider that a moral issue. I also don't like the idea of very wide modes such as OFDM on bands where space is tight (most of HF!), but I'm willing to accept a signal that will fit through an 500 Hz filter, just as RTTY, AMTOR and PSK31 do.

I want to promote a mode with wide acceptance in the Amateur community, and like you, I believe that despite the performance advantages of a voice-bandwidth mode, and the pleasure such a mode would give experts, I don't think Joe Ham will buy it.

9. Yes, I realise I have a camel here. As you know, I'm not a programmer of note, and nor am I an administrator, (I am a stirrer) but I hope that by pecking away at it someone will rise from the bit-bucket and say "I'll do that". I hope also someone else will rise and say "I'll do that for Linux too"!

I accept that by the time someone else takes up the idea and runs with it we may end up with a completely different animal from my initial concept. Sure, but at least we'll have something new and interesting, and hopefully it will be of service to the wider Amateur community.

Thanks for your ideas. I am sure we'll accept a DOS or Win 3.1 version for 486 when you are ready!

73,

Murray

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

59. [hfsig] Re: Piccolo book

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 10 Jun 2000 11:06:31 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89854-2000.06.09-17.31.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for the info Tom.

I have one of the original papers by Ralphs et al, and if anybody else has
more, please share it around!

The paper I have has a fascinating analysis of the integrate-and-dump filter
decoder from the time domain point of view, showing why the tones are
orthogonal with spacing 1/T. Exactly the same result is achieve in the
modern explanation in the frequency domain by Tom N5EG in his book "Wireless
Digital Communications: Design and Theory", available from TAPR.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

60. [hfsig] Re: Piccolo

From: Rolf Sommerhalder <rs@ife.ee.ethz.ch>
Date: Sun, 11 Jun 2000 14:10:47 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-90682-2000.06.13-04.13.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony Martin wrote:
> I'm still looking for definitive info on what piccolo modulation is.
> I found the following extract which might be interesting.
>
>   PICCOLO   Originally developed in 1957 in Great Britain at the
>   MK6/MK10   Diplomatic Wireless Service or as it is known today the
>   Communication Engineering Department of the British
>   Foreign and Commonwealth Office (FCO). The original
>   system was a 32 tone system and the development team
>   was lead by J.D.Ralphs.

Probably the same J.D. Ralphs is author of a book titled "Principles and
practice of multi-frequency telegraphy", Peter Peregrinus Ltd, London,
1985, ISBN 0-86341-022-7.

This book is quite readable, e.g. without heavy maths. It describes
the design procedure for an MFSK system and compares it with other
waveforms. There are also chapters on synchronisation, practical
matched filters, tracking in the time/frequency plane, some
error coding and applications of MFSK systems.

73,
Rolf

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

61. [hfsig] Re: MFSK mode Piccolo 2000 (DFE + Fractal)

From: Rolf Sommerhalder <rs@ife.ee.ethz.ch>
Date: Mon, 12 Jun 2000 11:13:58 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-90683-2000.06.13-04.13.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles H Brain wrote:

> Do you have any good references on fractal modulation ?
>
> Having been playing around with sending data on a number of different Ham radios I have
> come to realize how great a diversity there is in the performance of different radios. I am
> wondering if fractal modulation would be a way of making a universal modem that will work on just
> about any radio, with varying degrees of performance. If I have understood what it is then it
> might be of some use. I am looking at a replacement for FSK1200 nothing special BTW.

Nothing on fractal modulation, but some stuff that uses wavelets,
just risking to become "a bit more complex" than FSK1200:

A.N. Akansu, M.V. Tazebay, M.J. Medley, P.K. Das, Wavelet and Subband
Transforms: Fundamentals and Communications Applications,
IEEE Communications Magazine, Dec. 1997, p. 104-115.

In one section, this paper describes how Discrete Multi Tone (DMT)
(also called Discrete Multicarrier Modulation DMM, or
Orthogonal Frequency-Division Multiplexing OFDM), as proposed for
xDSL modems for example, utilize the unevenness of the channel
response to maximize the total achievable bit rate. Here the
"channel" includes the HF channel and the HF transceivers at both
ends. This is the situation your universal modem is facing.

I came across this paper while working on the problem of
"interference excision". Excsision of frequency-localized
interferers is important in the robust HF modem I am working
on that uses direct sequence spread spectrum (DSSS) modulation
in 2.4 kHz voice passband channels.

With a DMT modem, you face transient spikes, e.g. time-localized
interferers, that you might try to eliminate with a
"noise blanker" and/or a deinterleaver combined with some error
correction scheme.

I notice that the issue of (pulse) noise and other (co-channel)
interference has not been discussed much on this list so far.
Isn't this an effect that needs to be taken into account when
designing a new waveform, specially with the crowded HAM bands?

73,
Rolf

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

62. [hfsig] STANAG 5066, Appendix F ?

From: Rolf Sommerhalder <rs@ife.ee.ethz.ch>
Date: Mon, 12 Jun 2000 11:19:49 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-90684-2000.06.13-04.14.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone know where STANAG 5066, or at least its Appendix F
covering SMTP and POP over HF Radio, can be ordered or downloaded?

Tks,
Rolf

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

63. [hfsig] Re: MFSK mode Piccolo 2000 (DFE + Fractal)

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Tue, 13 Jun 2000 11:00:07 +0100

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-90690-2000.06.13-05.02.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Rolf Sommerhalder wrote:
>
> Charles H Brain wrote:
>
> I came across this paper while working on the problem of
> "interference excision". Excsision of frequency-localized
> interferers is important in the robust HF modem I am working
> on that uses direct sequence spread spectrum (DSSS) modulation
> in 2.4 kHz voice passband channels.

Hello Rolf,

This rather reminds me about the chirp modem I was playing with a few
years ago.

What I found was the best way of excising interfering carriers was to demodulate
the chirp using multiple ffts and tracking the chirp tone through the bins as it moved.
The information was differentially encoded BTW. Then at the end of each chirp doing
a simple majority vote on the hard decisions. I suppose the voting could produce a metric
that could be used for soft decision decoding.

I am sure I could do a better job of it if I had another go but I felt transmitting
voiceband chirps on the Amateur bands was not a good idea.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

64. [hfsig] Strong 6 channel signal on 14195

From: Jim White <jim@coloradosatellite.com>
Date: Tue, 13 Jun 2000 07:25:19 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-90722-2000.06.13-08.25.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm new to the list. Had my interest tickled at last years DCC.

Anyone know the source of the very strong 6 channel parallel digital signal
this morning (June 13 1330UTC) on 14.195? Signal is being turned on and
off. No voice ID. On for 15 minutes at a time. No modulation apparent
using DigiPan to observe.

jw
wd0e@amsat.org
jim@coloradosatellite.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

65. [hfsig] Data rates at VLF and ELF

From: "Laurence A Bay" <labay@zebra.net>
Date: Tue, 13 Jun 2000 21:13:50 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-90825-2000.06.13-21.20.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can anyone direct me to a site which has information explaining why CW
speed must be very slow at VLF and slower still at ELF.

What accounts for this? I believe it is related to bandwidth but I cannot
explain it.

For example, CW transmissions at ELF take very long times. Hence, the msg
tfc is very brief, usually limited to "Q" codes and the like. Yet it takes
a long time to transmit. Why?

Thanks

LAB

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

66. [hfsig] Re: Data rates at VLF and ELF

From: Richard B Morrow <k5cnf1@juno.com>
Date: Tue, 13 Jun 2000 21:30:19 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-90828-2000.06.13-21.32.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The answer is the bandwidth of the antennas will not allow rapid data
transmissions. Since bandwidth is narrow and cw speed in excess of a few
wpm can cause the bandwidth to increase out of the antenna, possibly
kicking the transmitter off the air. Normal operations above these
frequencies, 100KHz and above for example it makes no difference. I used
to hear the Jim Creek transmitter on 20 KHz going along at 20 wpm on
occasion.

Richard, K5CNF

On Tue, 13 Jun 2000 21:13:50 -0500 "Laurence A Bay" <labay@zebra.net>
writes:
> Can anyone direct me to a site which has information explaining why
> CW
> speed must be very slow at VLF and slower still at ELF.
>
> What accounts for this? I believe it is related to bandwidth but I
> cannot
> explain it.
>
> For example, CW transmissions at ELF take very long times. Hence,
> the msg
> tfc is very brief, usually limited to "Q" codes and the like. Yet
> it takes
> a long time to transmit. Why?
>
> Thanks
>
> LAB
>
>
>
> ---
> You are currently subscribed to hfsig as: K5CNF1@JUNO.COM
> To unsubscribe send a blank email to
> leave-hfsig-4070F@lists.tapr.org
>

_____
YOU'RE PAYING TOO MUCH FOR THE INTERNET!
Juno now offers FREE Internet Access!
Try it today - there's no risk! For your FREE software, visit:
http://dl.www.juno.com/get/tagj.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

67. [hfsig] MFSK Piccolo 2K questions

From: mwheatle@trsystems.com
Date: Thu, 15 Jun 2000 15:25:55 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: coombedn@ihug.co.nz
Message-ID: <LYR4070-91117-2000.06.15-14.31.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am (as usual) a bit fuzzy on the Costas signal method for obtaining
frequency position, symbol epoch position, and data framing. It appears to
be the key to Piccolo's operation since all freq/sync info is derived from
it so would like to understand a bit more of the method.

1. If i understand the idea, if n=sequence length, m=number tones(symbols),
and k=insertion interval then:
        a. with the 15.625 symbol rate, the time to xmit a complete sequence
is (n x k)/15.625. So with a seq length of 20 and an insertion interval of
10, it would take 12.8 seconds to get a complete sequence to work with
assuming you hit the begining perfectly.
        b. What length is needed? It would seem this autocorrelation

strength must be great enough to obtain freq,symbol, and data sync in the worst case S/N or multipath environment.

2. What metric exactly is used to determine the best autocorrelation. Just the sequence with the highest peak or maybe ratio of the max peak to any other peaks, or some other statistical measure using skew, SD, etc.?

3. It doesn't take too long a sequence to get out of hand. Perhaps there are some symetric properties that could be utilized to narrow the search? The above example of a length of 20 gives 8^20 combinations to try. Lets see, assume we can process/compare/store each try in 100uSecs. It would only take 3.6 million years to compute. Guess we'd better get started now huh?

4. On the receive side, i assume some sort of sliding fft would be used to try and find the symbol center in time as well as frequency position? Do you also have to slide the sample rate to center the tones in the fft bins or is the fft after a complex mixer and an NCO used to center the incoming tones?

5. What is a reasonable goal for frequency acquisition range? +-100Hz or so?

6. If several Costas sequences are found with similar properties, could some information be conveyed such as mode etc. by using different sequences?

Unless I'm missing something, how is this going to be a fast turn-around mode? One could store the incoming signal while aquiring sync and then rewind the data and start decoding. At least you wouldn't miss anything but would still be a long gap in time between xmissions.

Moe,ae4jy

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

68. [hfsig] Re: MFSK Piccolo 2K questions

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Fri, 16 Jun 2000 19:01:15 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91200-2000.06.16-01.27.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mo,

Yes, I think your assessment of using Costas Signals is correct (Phil - please comment!), and as you will realise this leads to an issue of lock-up time being rather too long for sensible real-time QSOs. Either we use more closely spaced framing signals, or look at other methods. I would like to see lock-up in a second or so, with latency of the same order. So, I absolutely agree with you.

Yes, you could store the data and unwind it when sync has been found, but much better to find it quickly (see below).

As to the length and design of the signal, you'd need to ask Phil. I don't think a simple (well intended to be operationally simple!) mode needs anything as complicated as nested signals. Same applies to multiple signals. You might know that Nino IZ8BLY has pulled a trick like this in MT63, sending a secondary data channel using 3 bits of the idle character.

Which brings me to an important alternative for symbol sync that we need to investigate. This idea is from Peter G3PLX, who has apparently used it before. Apparently, if the MFSK tones are phase continuous (easy to arrange when spacing = baud rate), you can recover the symbol phase from the received carrier phase using the FFT. No better explanation than Peter's own:

= de G3PLX ======

It's not intuitively obvious how you extract symbol sync from channel phase, but I have done it on a non-amateur OFDM system so I know it works. It's best if you try to follow my description by doing the calculations with MathCad or similar. Think of a block of 8 tones starting at 1000Hz and going up in 31.25Hz spacing. Put these into a 256-point FFT array (at points 32 to 39), all at zero phase (I=1, Q=0). Do the FFT to get the waveform (of 32mS duration), and let's call this a symbol cell. Imagine this is repeated continuously. If

you now take a 32mS chunk of this signal, aligned on the symbol cell,
and do the inverse FFT, you will see the tones appear again at points
32-39, all at zero phase (I=1, Q=0). No problem here, we have just
reversed the calculation to get back to where we started but now
repeat the experiment with the receiver symbol cell skewed late
slightly in time and examine the phases of tones 32-39. You will see
that they are no longer all zero, they form a linear series, the
slope of which, when divided by the tone spacing, gives you the time
delay. Repeat the experiment with other values of skew and you see
that the slope of the tone phase versus tone number graph is always
equal to the time delay. In the real-world on-air case there's also a
random RF phase constant as well, and in the MFSK case you only get
one tone at a time, but the symbol timing error can be derived by
subtracting the tone phase of one symbol from the tone phase of the
previous symbol and dividing the result by the difference in the
channel numbers of the two symbols. If you are worried about the
phases being corrupted (isn't this why you are going for MFSK and
away from PSK anyway), just remember that you are only doing this to
correct a slow feedback loop, so you don't need a high performance
channel. A "lesser performance" one will do. Note that you still
need to keep the code dancing around the tone-set: this isn't a
miracle way to derive symbol sync from a steady carrier!

==========

Of course a considerable amount of averaging and low pass filtering will be
necessary, and also a PLL to cope with extensive repeated characters and
idles (may need to stuff chars to prevent this). The importance of this
technique as I see it is that it uses the same receiving process as the
data, so should have good sensitivity (same receiver but lower bandwidth in
PLL filter). It should also be much quicker than a Costas Signal approach.
We really need someone to try it. I am hoping Gary ZL1AN will model it in
Mathcad for me. He recently did a very nice model of PSK-Hell this way.

Quite how we deploy an NCO, or fit tuning to fit the signal in the bins I
don't know yet. However the guy to ask is Lionel G3PPT, who has this sort of
thing working very well in his THROB2. It is a nine-tone 10 WPM MFSK system
(actually 2-of-9) at 1 baud using a symbol synchronous FFT receiver and
incorporates AFC. (Synchronism is manual at present!) He does not use an
NCO, but somehow slides the receive window across the bins. Lionel actually
employs two FFTs - the first is a windowed brick-wall bandpass filter using
a raised cosine algorithm before reverse FFT and the following detector FFT.
I assume he simply slides the bins from the first FFT sideways before the
reverse FFT. I've attached some of the help file from THROB2, as his
approach is quite unique.

You can contact Lionel at lionel@lsear.freeserve.co.uk

Actually, if we can suss out symbol sync using Peter's technique, Lionel's
simple little program would be a good place to apply it first. What Lionel
is doing is a very good precursor to a serious MFSK mode, and it works
remarkably well.

I think AFC acquisition range need be only about 1 tone - not much more. Say
30-40 Hz, assuming we use 31,25 Hz spacing. Most modern rigs will tune that
close. Nobody has much trouble with PSK31 any more, and that's even tighter.

Hope this helps,

Murray ZL1BPU
[Attachment: Throb2.txt; text/plain; 3,885 bytes]

69. [hfsig] FYI

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 16 Jun 2000 10:38:55 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91277-2000.06.16-12.42.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

Since an interesting discussion started up around m-FSK, here are some
URLs pointing to some materials that may be of interest.

1. http://www.datasonics.com/PRODUCTS/MODEMS/technical_papers.htm

Describes some parallel m-FSK modems for underwater communications. They
have to deal with some of the same problems as the HF channel, i.e.,
fading, multipath, Doppler, ... dispersive signals, challenging SNR

conditions. The parallel m-FSK modem operates in a 4800 Hz BW, achieves
4800 BPS. Paper also describes a scheme similar to MT63, though using 120
orthoganal, wide-spaced tones and "Hadamard" coding, which I assume is
the same idea used in MT63 (though using Walsh coding.)

2.http://rover.mainz.netsurf.de/~signals/TABLES/PSK.HTML#HFDL

Contains an impressive list of documented waveforms. Some old, some new,
though missing some of the very latest "massively parallel" HF modems.
Note that MT63, CLOVER, Pactor II, and PSK31 are listed. This is
rather gratifying to see Amateur radio experimentor's work are listed
amongst the ranks of this fine collection.

It is evident from these two URLs that narrow-bandwidth ideas are rather
in the minority when seen in the bigger picture of where HF digital
communications are headed in the commercial, diplomatic and military
service. Also note that there is only one "chat" style mode listed in all
this work. I guess only Hams have a need for such a mode?

Enjoy,

Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

70. [hfsig] High Speed Data on HF

From: DuBose Walt GS-12 HQ AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Fri, 16 Jun 2000 13:13:22 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "'k2mga@cq-amateur-radio.com'" <k2mga@cq-amateur-radio.com>,
"'w2vu@cq-amateur-radio.com'" <w2vu@cq-amateur-radio.com>,
"'k1zz@arrl.org'" <k1zz@arrl.org>, "'w5jbp@arrl.org'" <w5jbp@arrl.org>
Message-ID: <LYR4070-91281-2000.06.16-13.17.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Every year at about this time of the year, some what later this year,
emergency managers along the Texas Gulf Coast begin asking amateur radio
operators what high speed data capabilities they have. The reason is that
Texas is now in the "hurricane season".

The emergency managers know that linked V/UHF systems can fail if one link
goes down and of course hams do not generally have redundant links. And
certainly repeaters do not generally reach from one end of the Texas Gulf
Coast to the other or inland far enough to reach the state capital or
emergency coordinating center. Therefore, these emergency managers realize
that only HF as the capability to reach from one station along the coast to
an inland emergency coordinating center or the state capital.

When we say that we have 45 baud (BPS) HF data capability they shake their
heads. The reason is that they need to be able to send a number of rather
large files (of 40KB-200KB) quickly and error free.

They know that this capability exist in the commercial world and would very
much like to "buy" this technology; but, as in so many other cases, the
funding just is not there for this type of communications equipment.

So, I am again this year challenging you who have the technical expertise to
put together a software system using computer sound cards and open source
operating systems and application code that can transmit 2400BPS-4800BPS
data on HF. The system does not have to work down in the noise at these
speeds; of course, the more robust it is the better.

In the past year, this special interest group has seen much progress in the
area of producing a high speed modem for HF. I hope that in the near future
the corporate effort of this group will field a system as described above.

Best Regards,

Walt DuBose/K5YFW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

71. [hfsig] Re: FYI

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Fri, 16 Jun 2000 21:17:40 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91294-2000.06.16-15.20.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan Forrer wrote:
>
>
> 2.http://rover.mainz.netsurf.de/~signals/TABLES/PSK.HTML#HFDL
>
> Contains an impressive list of documented waveforms. Some old, some new,
> though missing some of the very latest "massively parallel" HF modems.
> Note that MT63, CLOVER, Pactor II, and PSK31 are listed. This is
> rather gratifying to see Amateur radio experimentor's work are listed
> amongst the ranks of this fine collection.
>

Leif monitors HFSIG BTW and is quite often on #monitor IRC

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

72. [hfsig] Interesting page

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Sat, 17 Jun 2000 14:21:36 -0300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91420-2000.06.17-12.22.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://rover.mainz.netsurf.de/~signals/DIG_intro.htm

Marcelo Puhl
mark@plug-in.com.br

Get paid to surf the WEB !
Ganhe dinheiro enquanto surfa na Internet !
http://alladvantage.com/go.asp?refid=DTJ608

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

73. [hfsig] World's First!

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sun, 18 Jun 2000 21:59:33 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91556-2000.06.18-04.23.14--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

ANNOUNCING the world's first Amateur Radio MFSK QSO using Piccolo 2000!

Piccolo 2000 in action - first QSO was today at 0515 UTC on 18.105 MHz,
between IZ8BLY and ZL1BPU. Transmitter power at both ends about 15 - 25W,
dipole antennas.

Conditions were weak and fading, with significant flutter. Copy was
generally 100%, even though the signal was always weak and often inaudible.
Signal reports RST 519. For the first few overs of the QSO no FEC coding was
used! The QSO lasted about 90 minutes, and was terminated by exhaustion and
overheated transmitters, rather than conditions!

The following 250 Hz wide modes, all yielding 256 bps, were tried:

8 baud 32 tone
16 baud 16 tone
32 baud 8 tone

All modes performed well. Other modes were tried, along with different FEC
options. Most of the time the NASA standard R=1/2 K=7 code was used,
resulting
in a text speed of about 100 WPM (using Varicode).

The signal was acquired quickly at the start of each over, with minimum
latency (about 1 sec) and quick turn-around. Tuning was sharp but not
difficult. The software (a development version) performed flawlessly.

Congratulations to Nino IZ8BLY for the excellent software!

P.S. - for those within range, the next QSO will be on 3.560 MHz LSB at 0930
UTC today, between ZL1BPU and ZL1AN.

73,

Murray ZL1BPU

(P.S. - after the first QSO I discovered my RX attenuator had been switched
in the whole time!)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

74. [hfsig] First PICCOLO 2000 QSO

From: "Nino Porcino" <porcino@sysonline.it>
Date: Sun, 18 Jun 2000 12:15:56 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91560-2000.06.18-05.22.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm proud to announce that today me (IZ8BLY) and Murray (ZL1BPU) have made the first Piccolo 2000 QSO!
It was a 17,000 Km DX, nice result eh?

The new mode showed great advantage over PSK modulation and performed quite error-free with barely
audible signals.

Among the various combinations the most interesting was: 32-tones MFSK running at 7.8125 baud, spaced
7.8125 Hz each for a total bandwidth of 250 Hz. The use of Varicode and FEC convolutional code (R=1/2,
K=7) provided a reasonably good typing speed of approx 20 WPM.

This mode promises well!

- Nino IZ8BLY

75. [hfsig] Re: [Hellschreiber] First PICCOLO 2000 QSO

From: "Paulus" <paulstra@xs4all.nl>
Date: Sun, 18 Jun 2000 14:11:16 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91561-2000.06.18-07.15.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Congratulations to both Nino IZ8BLY and Murray ZL1BPU.

I never had thought that the Piccolo 2000 would be so quickly on the air
with good results. Fb !

When I am correct, the 32 baud 8 tones version seems also very well suited
for VHF, where stability is more an problem then on HF.

Ah well, we will found this out soon enough, when testversions become
available.

Cheerio now,
73 de Paul, PA0OCD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

76. [hfsig] Re: [Hellschreiber] World's First!

From: "Michael Pastorcich" <kf4hey@hotmail.com>
Date: Sun, 18 Jun 2000 08:50:31 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91567-2000.06.18-08.50.46--lyris.hfsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Murray es Nino,

Congratulations!!! I look forward to the first release, which at Nino's pace will be sometime this afternoon, hi hi.

One question: Murray stated the rate at 100wpm and Nino at 20wpm, which is it? Or is it variable depending on the mode and type of FEC?

73 de Mike KF4HEY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

77. [hfsig] Piccolo 2000 software.

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Mon, 19 Jun 2000 18:39:17 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91719-2000.06.19-01.28.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry folks,

You can't have Nino's Piccolo 2000 software yet! It is still in development, and needs first to have some minor bugs removed, and then after the on-air testing it will have the final mode settings selected, and the documentation added before release. At the same time expect Nino's super-PSK mode "STREAM" to be released. This is a BIG product and a major effort to develop and release.

At present driving the software is rather frightening, as there are eight baud rates, eight modulations and about seven FEC modes to choose from!

Never fear, the software will be released as soon as possible. You will hear it on the air more often as the number of beta testers increases. Listen around the usual frequencies for unusual warbling noises.

Please be patient - the wait will be WELL worthwhile.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

78. [hfsig] Piccolo 2000 World's First!

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Mon, 19 Jun 2000 18:55:02 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91720-2000.06.19-01.29.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Nick,

Thanks for your comments and congratulations. MFSK is quite a departure from previous Amateur modes, so it has been an adventure to create such a thing. The performance is really remarkable, even though the software is incomplete.

I don't think we will introduce 128 tones, but Nino and I have been discussing 64 tones and also 4 baud and possibly 2 baud. The problem with such slow modes is that the bandwidth of each tone receiver is very narrow and tuning becomes a big problem. For example, at 4 baud each receiver is only about 2 Hz wide. We intend to stay with a fixed ratio of spacing to baud rate as it makes the design easier and makes understanding easier too!

There is some confusion about baud rates and typing speeds. The baud rate is the same as the symbol rate, but the raw data rate (bits per second) is the baud rate x log2(n) where n is the number of tones. So with eight tones the speed is baud rate x 3. Then consider the FEC. The output data rate is raw data rate x the FEC Rate, so with no coding it = the raw rate, with R=1/2 it

is raw rate / 2 and so on.

We estimate the actual typing speed by assuming that each word has 6 letters
including the word space, and that each letter has 10 bits (not accurate for
Varicode), so here's an example:

For 4 baud, 16 tones (4 bits), the raw data rate is 16 bps.
With FEC R=1/2 that's 8bps output, or 8 x 60 / (6 x ~10) = ~8 WPM (words per
minute).

WPM = Words Per Minute

I hope that helps. Nick, do you plan to write a program for Piccolo 2000 as
well? The more the merrier! Since it uses the Varicode, it should work in
Russian :-)

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

79. [hfsig] Re: [MT63] Piccolo 2000 software.

From: Tomi Manninen OH2BNS <tpm@prkele.tky.hut.fi>
Date: Mon, 19 Jun 2000 12:23:38 +0300 (EETDST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: Hell Reflector <Hellschreiber@onelist.com>, HFSIG <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91726-2000.06.19-04.27.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 19 Jun 2000, Coombe Down wrote:

> Never fear, the software will be released as soon as possible. You will hear
> it on the air more often as the number of beta testers increases. Listen
> around the usual frequencies for unusual warbling noises.

And it will be released with source I hope?

--
Tomi Manninen Internet: oh2bns@sral.fi
OH2BNS AX.25: oh2bns@oh2rbi.fin.eu
KP20ME04 Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

80. [hfsig] Piccolo 2000 software source released?

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Mon, 19 Jun 2000 22:35:13 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91732-2000.06.19-04.58.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tomi,

Yes, that's the plan. At least the important bits, like the block diagram,
all the algorithms and the coders and decoders. Just let's agree on what we
want and get it right first!

This started out as a proposal with a formal spec, but Nino, as is his way,
coded it all and had it working before we even agreed on the spec!

It is of course also important to release the algorithms anyway, so it can
be used in countries that insist on publication of these things before they
can be used.

I would LOVE someone to do a version for Linux :-)

73,

Murray

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

81. [hfsig] Re: Piccolo 2000 software source released?

From: Tomi Manninen OH2BNS <tpm@prkele.tky.hut.fi>
Date: Mon, 19 Jun 2000 13:32:10 +0300 (EETDST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91734-2000.06.19-05.35.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 19 Jun 2000, Coombe Down wrote:

> Yes, that's the plan. At least the important bits, like the block diagram,
> all the algorithms and the coders and decoders. Just let's agree on what we
> want and get it right first!

Sure.

(As a IMHO not really that important side issue, would part of the code
being GPL require all of the program being GPL? Can a GPLd program use
commercial toolkits/libraries? Any licence gurus here? I have always
gotten away with that by always putting every single line of my code under
the GPL and never using anything non-free to link against... :-)

> This started out as a proposal with a formal spec, but Nino, as is his way,
> coded it all and had it working before we even agreed on the spec!
>
> It is of course also important to release the algorithms anyway, so it can
> be used in countries that insist on publication of these things before they
> can be used.
>
> I would LOVE someone to do a version for Linux :-)

That's the point, I might do that. Especially if that wouldn't involve
much wheel re-inventing *). Of course as someone said, choosing the proper
toolkit this could be a non-issue as the code could be made to work on
both platforms as is.

*) Got enough of that with newqpsk/q15x25. And I have yet to see a report
   of someone actually using it... Good thing my main goal was just to learn
   DSP from it. :-)

--
Tomi Manninen   Internet: oh2bns@sral.fi
OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

82. [hfsig] HF modem

From: halvor.liland@thomson-csf.no
Date: Tue, 20 Jun 2000 15:43:51 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91970-2000.06.20-08.49.25--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have an application where I need about 500 bit/s data rate at HF (SSB
channel)
where NVIS paths will be used. One solution I am working with is to use
8-ary
FSK modulation (MIL-STD-188-141, the ALE waveform). I am not sure if FSK or
PSK
will be the best one in my application. Is there anybody who has some
arguments
for FSK or PSK and a reccomendation of what to use.

73 LA7BO Halvor

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

83. [hfsig] RE: HF modem

From: DuBose Walt GS-12 HQ AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Tue, 20 Jun 2000 08:56:44 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-91976-2000.06.20-09.00.29--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have put out a request for 800-1200 BPS robust data rate and 2400 BSP with
a good SNR.

Nino Porcino was very kind and sent me an E-Mail asking what SNR I needed
for the 800-1200 and 2400 BPS modes.

This makes a lot of difference in determining what "modem" protocol to use
or in Nino's case code.

So, you might want to address the SNR that you need.

I didn't specify only NVIS paths as I think perhaps I might need at least
one hop...realizing that the more hops a signal takes complicates the
requirements for a modem protocol (at least I think I have gathered this
from the information on the SIG).

Walt/K5YFW

-----Original Message-----
From: halvor.liland@thomson-csf.no [mailto:halvor.liland@thomson-csf.no]
Sent: Tuesday, June 20, 2000 8:44 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] HF modem

I have an application where I need about 500 bit/s data rate at HF (SSB
channel)
where NVIS paths will be used. One solution I am working with is to use
8-ary
FSK modulation (MIL-STD-188-141, the ALE waveform). I am not sure if FSK or
PSK
will be the best one in my application. Is there anybody who has some
arguments
for FSK or PSK and a reccomendation of what to use.

73 LA7BO Halvor

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

84. [hfsig] The Rudolf Horkheimer Price

From: JALOCHA@axdeop.cern.ch
Date: Fri, 23 Jun 2000 13:28:15 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-92573-2000.06.23-06.32.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yesterday it was my honeur to receive in Friedrichshafen
the Rudolf Horkheimer Price for the year 2000. The Price is awarded
each year by the German Amateur Radio Club (DARC - www.darc.de).

I treat the award of the Price as an expression of appreciation
from the amateur radio community, thus I would like to say "Thank you !"
to the community on this mailing list.

Actually I shared the Price with Peter Martinez. Unfortunately Peter
was not able to come and the reward was passed to him through Adreas Gawron
who arrived to Friedrichshafen.

Pawel

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

85. [hfsig] Re: The Rudolf Horkheimer Price

From: Charles H Brain <chbrain@dircon.co.uk>
Date: Fri, 23 Jun 2000 14:26:40 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-92595-2000.06.23-08.29.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

JALOCHA@axdeop.cern.ch wrote:
>
> Yesterday it was my honeur to receive in Friedrichshafen
> the Rudolf Horkheimer Price for the year 2000. The Price is awarded
> each year by the German Amateur Radio Club (DARC - www.darc.de).
>

Congratulations Pawel.

BTW who is/was Rudolf Horkheimer?

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

86. [hfsig] Re: The Rudolf Horkheimer Price

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 23 Jun 2000 07:22:20 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-92615-2000.06.23-10.22.25--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Congratulations Doctor Pawel !!

I could not think of a more appropiate pair of recipients for that honor.
Especially for all the creative work you have done and contributed.
We have enjoyed and learned so much along that journey together.

Wish you the best for your future endeavors.

Thank you again.

Johan, KC7WW

At 01:28 PM 6/23/00 +0200, you wrote:

>Yesterday it was my honeur to receive in Friedrichshafen
>the Rudolf Horkheimer Price for the year 2000. The Price is awarded
>each year by the German Amateur Radio Club (DARC - www.darc.de).
>
>I treat the award of the Price as an expression of appreciation
>from the amateur radio community, thus I would like to say "Thank you !"
>to the community on this mailing list.
>
>Actually I shared the Price with Peter Martinez. Unfortunately Peter
>was not able to come and the reward was passed to him through Adreas Gawron
>who arrived to Friedrichshafen.
>
>Pawel
>
>---
>You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

87. [hfsig] Re: The Rudolf Horkheimer Price

From: "Paulus" <paulstra@xs4all.nl>
Date: Fri, 23 Jun 2000 18:22:23 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-92622-2000.06.23-11.26.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Congratulations to both Pawel SP9VRC and Peter G3PLX in recieving this
Horkheimer Price.

I have had many fine hours in trying out and operating the new modes MT63,
Newqpsk and Psk31.
The adventure was back again and it stayed .

Thank you both !

Paul, PA0OCD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

88. [hfsig] Re: The Rudolf Horkheimer Price

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 24 Jun 2000 16:27:32 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-92689-2000.06.23-23.09.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pawel,

Congratulations to you, and also to Peter.

It is also great to rediscover your email address, as I have been trying to
contact you for some time.

I wish you the best for the future, The success is well deserved.

73,

Murray ZL1BPU

(NZART "Amateur of the Year", 1999).

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

July 2000

Original source file: hfsig.0007
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0007

1. [hfsig] ANNOUNCE: newqpsk-0.0.4

From: Tomi Manninen OH2BNS <tpm@prkele.tky.hut.fi>
Date: Mon, 3 Jul 2000 18:00:03 +0300 (EETDST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-94557-2000.07.03-10.04.14--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

just uploaded a new version of my newqpsk package, a NEWQPSK/Q15X25
implementation for Linux and soundcard to hes.iki.fi:

  http://www.hes.iki.fi/pub/ham/unix/linux/ax25/newqpsk/

In addition to the usual tarball there are source and i386 binary RPMs as
well.

>From the ChangeLog:

2000-07-02 Tomi Manninen <tpm@oh2bns.ampr.org>

        * Version 0.0.4

        * RPM spec file

        * Changed the default channel access parameters

2000-03-11 Tomi Manninen <tpm@oh2bns.ampr.org>

        * Some reordering in rxdata()

        * Implemented frequency and sync tracking in data phase

        * Implemented data carrier S/N reporting

        * Hopefully fixed the "modulate_calib error" problem

--
Tomi Manninen   Internet: oh2bns@sral.fi
OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] HF Emergency Data Communications

From: Walt DuBose <dubose@texas.net>
Date: Mon, 10 Jul 2000 00:40:19 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-95631-2000.07.10-00.43.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Several individuals has ask me to place them on MY mail list concerning
HF Emergency Data Communications as this is my special interest. These
E-Mails will address both technical, legal and political discussions
concerning using data communications on HF in support of emergency
communications. One suggestion I have already received is the
possibility of starting a PSK31 Hurricane Net. I think this is a great
idea.

There was an individual with the Alabama ARES (I have lost the E-Mail
address), one on the East coast, one in California who wanted to be on
the list if it was started. I have also forgotten who those individuals
were.

If you are interested in being on the mail list, so that we can keep
down the bandwidth on the two mail list addressed here, please send an
E-Mail to dubose@texas.net   Please include in the text the following:

E-Mail address:
Name: (or what you want to be called)
Callsign:
Location: city, state, country (as appropriate)
If you DO NOT want your E-Mail address shared with others on the list,
please state "Do not share my E-Mail address." I will send to you under
Bcc.

My thanks to all the other list members for indulging this use of the
mailgroup's/SIG's bandwidth.

Very Best Regards,

Walt DuBose/K5YFW
San Antonio, Texas

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: HF Emergency Data Communications

From: k4abt <k4abt@packetradio.com>
Date: Mon, 10 Jul 2000 07:57:07 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "psk31@bipt106.bi.ehu.es" <psk31@bipt106.bi.ehu.es>, hfsig@lists.tapr.org
Message-ID: <LYR4070-95653-2000.07.10-07.02.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Have you been to
http://www.packetradio.com/PSK31.htm
??????????????
Have you read the July 2000 issue of CQ Magazine... "Packet User's
Notebook".

If not, read the more indepth PSK31 article upcoming in "NUTS & VOLTS"
Magazine.

I've tried to get the message across many times... PSK31 is a 'NATURAL' for
emergency communications.

Where have you been?

The wheel has already been invented,.. and so has the carriage...
there's just one problem... no one whats to ride in it!

73 de BucK4ABT
==========

Walt DuBose wrote:

> Several individuals has ask me to place them on MY mail list concerning
> HF Emergency Data Communications as this is my special interest. These
> E-Mails will address both technical, legal and political discussions
> concerning using data communications on HF in support of emergency
> communications. One suggestion I have already received is the
> possibility of starting a PSK31 Hurricane Net. I think this is a great
> idea.
>
> There was an individual with the Alabama ARES (I have lost the E-Mail
> address), one on the East coast, one in California who wanted to be on
> the list if it was started. I have also forgotten who those individuals
> were.
>
> If you are interested in being on the mail list, so that we can keep
> down the bandwidth on the two mail list addressed here, please send an
> E-Mail to dubose@texas.net   Please include in the text the following:
>
> E-Mail address:
> Name: (or what you want to be called)
> Callsign:
> Location: city, state, country (as appropriate)
> If you DO NOT want your E-Mail address shared with others on the list,
> please state "Do not share my E-Mail address." I will send to you under
> Bcc.
>
> My thanks to all the other list members for indulging this use of the
> mailgroup's/SIG's bandwidth.
>
> Very Best Regards,

>
> Walt DuBose/K5YFW
> San Antonio, Texas

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: [psk31] HF Emergency Data Communications

From: <hr1hcp@tutopia.com>
Date: Mon, 10 Jul 2000 19:19:00 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-95747-2000.07.10-20.23.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I agree, you can find some of the work we have done (exercises) in SATERN
with PSK
on http://www.qsl.net/hr1hcp for emergencies. The results were great, so we
have PSK capability.
>From this page you can learn about us on page 5 of SATERN's bulletin.
73, Herman
/ex

> Several individuals has ask me to place them on MY mail list concerning
> HF Emergency Data Communications as this is my special interest. These
> E-Mails will address both technical, legal and political discussions
> concerning using data communications on HF in support of emergency
> communications. One suggestion I have already received is the
> possibility of starting a PSK31 Hurricane Net. I think this is a great
> idea.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Throb V2.3

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Thu, 13 Jul 2000 19:04:26 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <DigitalModes@egroups.com>, <hfsig@lists.tapr.org>
Message-ID: <LYR4070-96370-2000.07.13-13.13.29--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

I have released a new version of the MFSK program Throb, V2.3.

A new speed of 4 Throbs/sec has been added. This gives 40 wpm but is pushing
the 72 Hz bandwidth to the limit, and the mode is more suited to those
strong signals at S1 and above. Also it sounds less like throbbing and more
like quivering.

Auto synchronisation has been added.

The other changes are minor, namely "=" character sacrificed for apostrophe
" ' ", and the "@" character has been added. Additionally, the speed may now
be changed without stopping the program.

The program may be downloaded from :

             http://www.lsear.freeserve.co.uk/page3.html

also Ko, NL9222 has it on:

              http://home.wanadoo.nl/nl9222/software.htm

73
Lionel
G3PPT

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Throb V2.3

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Tue, 18 Jul 2000 09:37:09 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <DigitalModes@egroups.com>, <hfsig@lists.tapr.org>
Message-ID: <LYR4070-97146-2000.07.18-03.44.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

Slight 'humble pie' time.

The 4 Throb/sec speed in V2.3 is having some problems in practice. This is
due mainly to insufficient buffering on the Rx side. I am well on the way
to rectifying this, and recent tests with Bernard, G3JYF have been
encouraging.

I have also managed to gain a bit more sensitivity.

For the moment, please do not waste time on the 4 Throb/sec speed, and I
will correct things in V2.4.

Again, apologies but we are nudging Shannon a little and I do not want to
widen the bandwidth from 72Hz.

73
Lionel
G3PPT

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Throb V2.3

From: Johan Forrer <forrerj@peak.org>
Date: Tue, 18 Jul 2000 09:37:10 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: DigitalModes@egroups.com
Message-ID: <LYR4070-97193-2000.07.18-11.42.05--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Lionel,

Thanks for the great efforts.

Question: do you use guard periods in the FFT demodulator?

Looking forward trying the new version.

73,

Johan, KC7WW

On Tue, 18 Jul 2000, Lionel Sear wrote:

> Hi All,
>
> Slight 'humble pie' time.
>
> The 4 Throb/sec speed in V2.3 is having some problems in practice. This is
> due mainly to insufficient buffering on the Rx side. I am well on the way
> to rectifying this, and recent tests with Bernard, G3JYF have been
> encouraging.
>
> I have also managed to gain a bit more sensitivity.
>
> For the moment, please do not waste time on the 4 Throb/sec speed, and I
> will correct things in V2.4.
>
> Again, apologies but we are nudging Shannon a little and I do not want to
> widen the bandwidth from 72Hz.

>
> 73
> Lionel
> G3PPT
>
>
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Throb V2.3

From: BUDW8RQQ@aol.com
Date: Tue, 18 Jul 2000 14:27:47 EDT
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-97209-2000.07.18-13.32.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a message dated 7/18/00 4:41:02 AM Eastern Daylight Time,
lionel@lsear.freeserve.co.uk writes:

<< hfsig-3431E@lists.tapr.org
  >>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Throb V2.3

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Tue, 18 Jul 2000 20:37:03 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-97218-2000.07.18-14.44.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Johan,

I'm not sure what a 'guard period' is in the FFT demodulator.

I can say briefly what I am doing which may answer the question.

I take 16 bit samples at 8000Hz from the soundcard in 2046 byte blocks, and
take every other one of these samples to give 1024 byte blocks at a sampling
frequency of 4000Hz. These are combined into 4096, 2048 or 1024 byte blocks
for 4, 2 or 1 Throb/sec speeds respectively.

For filtering, I attach these to the previous combined block, and apply a
window which is raised cosine for the first and last quarters and the middle
part is at unity. An FFT is done, the bins outside the 72Hz passband are set
to zero and an inverse FFT is done. The middle bit after the first quarter
and before the last quarter is our filtered waveform and is contiguous with
the middle part of the previous filtering FFT. To get a feel for how this
FFT/invFFT works, try running the filter program BINSTER which you can find
on:

         http://www.lsear.freeserve.co.uk/binster.zip

or on Ko's sites:

Home site: http://leden.tref.nl/~nl9222tv
Mirror site: http://home.wanadoo.nl/nl9222/index.htm

Or I can email you a copy.

I then normalise the amplitude of the whole block with respect to the
largest amplitude in the block and copy it to the right hand side of the
previous filtered block. I then sample the amplitude across the two blocks
and this is what is plotted on the left hand graphics screen. The shape of
the Throb pulses is clearly seen enabling a manual or automatic placing of
the sampling point in the null before the first whole Throb on the display.
The 4096, 2048 or 1024 samples after this sampling point are then copied to
a second FFT routine and subjected to a window which is exactly the same as
that used to shape the transmitted Throb pulse. This yields the demodulated

bins as seen in the green display. In fact I do a 4096 sample FFT at this
stage for all speeds with the unused sample locations at the higher speeds
being set to zero.

At 1 and 2 throbs/sec the peaks are very well separated and easy to decode
but at 4 Throb/sec
the 1024 sample yields a bin size of 4 Hz which is not ideal for a tone
separation of 8Hz. However, the pattern for each of the different tone
combinations is quite distinct and suggests to me that a neural net would be
ideal for decoding at this speed...I will look into it.

73 Lionel, G3PPT

On July 18th 2000, Johan Forrer wrote:

>Hi Lionel,
>
>Thanks for the great efforts.
>
>Question: do you use guard periods in the FFT demodulator?
>
>Looking forward trying the new version.
>
>73,
>
>Johan, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: Throb V2.3

From: Johan Forrer <forrerj@peak.org>
Date: Tue, 18 Jul 2000 22:11:01 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-97343-2000.07.19-01.10.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Lionel,

Thanks for the insight into how Throb works. Quite interesting.

So a "throb" is really a "chip" or stacked baud and with an interesting
front-end filter done in FFT. You apparently are sort of doing what a
guard period is supposed to be doing i.e., excise the unstable bit
transitions out of the FFT demodulator, or another way of looking at it,
limiting excess bandwidth.

In more conventional MIL-STD multitone modems using FFT demodulators, there
is only one FFT involved in the receive side, but not all the received data
in the sampled block are used ... only a stable portion in the middle of
the block gets passed through the FFT. This way, the effects of HF
multipath-induced bit jitter in transition regions (in the time domain)
are reduced. Working with a shortened FFT implies that one has to
compensate recovered phase for the guard band period.

Really not all that complicated, but I believe found to contribute some
useful improvements.

Looking forward to further releases of your software.

73,
Johan, KC7WW

At 08:37 PM 7/18/00 +0100, you wrote:
>Hi Johan,
>
>I'm not sure what a 'guard period' is in the FFT demodulator.
>
>I can say briefly what I am doing which may answer the question.
>
>I take 16 bit samples at 8000Hz from the soundcard in 2046 byte blocks, and

>take every other one of these samples to give 1024 byte blocks at a sampling
>frequency of 4000Hz. These are combined into 4096, 2048 or 1024 byte blocks
>for 4, 2 or 1 Throb/sec speeds respectively.
>
>For filtering, I attach these to the previous combined block, and apply a
>window which is raised cosine for the first and last quarters and the middle
>part is at unity. An FFT is done, the bins outside the 72Hz passband are set
>to zero and an inverse FFT is done. The middle bit after the first quarter
>and before the last quarter is our filtered waveform and is contiguous with
>the middle part of the previous filtering FFT. To get a feel for how this
>FFT/invFFT works, try running the filter program BINSTER which you can find
>on:
>
>   http://www.lsear.freeserve.co.uk/binster.zip
>
>or on Ko's sites:
>
>Home site: http://leden.tref.nl/~nl9222tv
>Mirror site: http://home.wanadoo.nl/nl9222/index.htm
>
>Or I can email you a copy.
>
>I then normalise the amplitude of the whole block with respect to the
>largest amplitude in the block and copy it to the right hand side of the
>previous filtered block. I then sample the amplitude across the two blocks
>and this is what is plotted on the left hand graphics screen. The shape of
>the Throb pulses is clearly seen enabling a manual or automatic placing of
>the sampling point in the null before the first whole Throb on the display.
>The 4096, 2048 or 1024 samples after this sampling point are then copied to
>a second FFT routine and subjected to a window which is exactly the same as
>that used to shape the transmitted Throb pulse. This yields the demodulated
>bins as seen in the green display. In fact I do a 4096 sample FFT at this
>stage for all speeds with the unused sample locations at the higher speeds
>being set to zero.
>
>At 1 and 2 throbs/sec the peaks are very well separated and easy to decode
>but at 4 Throb/sec
>the 1024 sample yields a bin size of 4 Hz which is not ideal for a tone
>separation of 8Hz. However, the pattern for each of the different tone
>combinations is quite distinct and suggests to me that a neural net would be
>ideal for decoding at this speed...I will look into it.
>
>73 Lionel, G3PPT
>
>On July 18th 2000, Johan Forrer wrote:
>
>
>
>
>
> >Hi Lionel,
> >
> >Thanks for the great efforts.
> >
> >Question: do you use guard periods in the FFT demodulator?
> >
> >Looking forward trying the new version.
> >
> >73,
> >
> >Johan, KC7WW
>
>
>
>
>---
>You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] ARRL and TAPR 19th Annual Digital Communications Conference

From: "Steven R. Bible" <n7hpr@tapr.org>
Date: Wed, 19 Jul 2000 10:48:46 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>

Message-ID: <LYR4070-97385-2000.07.19-09.54.21--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

ARRL and TAPR 19th Annual
Digital Communications Conference
September 22-24, 2000 - Orlando, Florida

For more information see: http://www.tapr.org/dcc

Information
Mark your calendar and start making plans to attend the year's premier event in digital communications. The 19th Annual ARRL and TAPR Digital Communications Conference will be held September 22-24, 2000, in Orlando, Florida - just minutes from the Orlando International Airport.

The ARRL and TAPR Digital Communications Conference is an international forum for radio amateurs in digital communications, networking, and related technologies to meet, publish their work, and present new ideas and techniques for discussion. Presenters and attendees will have the opportunity to exchange ideas and learn about recent hardware and software advances, theories, experimental results, and practical applications. The Digital Communications Conference is not just for the digital expert, but also for digitally oriented amateurs of all levels of experience.

A Conference for the Beginner as well
The conference is not just for the digital expert. As in years past an entire session strand with beginning, intermediate, and advanced presentations on selected topics in digital communications will be offered. Some of the topics will include: APRS, Satellite Communications, TCP/IP, Digital Radio, Spread Spectrum and other introductory topics. Come to the conference and hear these topics presented by the experts!

Area Attractions
The Orlando Florida area is famous for its attractions and vacation spots. Disney World, Universal Studios, and Sea World (just to name a few) are within 15 minutes of the hotel. Shuttle service from the hotel will be available for a small fee. Cape Canaveral and Cocoa Beach are a 30 minute drive East of the hotel.

Symposia, Seminars and Banquet
Two symposia/seminars will be held which allow those with additional time and interest to make the most of the Conference. For those who may have interest in just one symposium or seminar, registration for the conference is not required to attend these activities. This allows maximum flexibility for those who may want to participate during the Digital Communications Conference, but do not have an entire weekend to devote to the event.

The Fourth APRS National Symposium will be held on Friday and will be moderated by Steve Dimse, K4HG (the developer of javAPRS). It will likely include many APRS software authors, such as Bob Bruninga, WB4APR (the father ofAPRS), Keith Sproul, WU2Z, Mark Sproul, KB2ICI (the developers of MacAPRS and WinAPRS), Brent Hildebrand, KH2Z (the developer of APRSPLUS), Mike Musick, N0QBF (developer of PocketAPRS), and other nationally known APRS leaders. Join this group for the afternoon and evening for in-depth discussions and presentations on the current and future status of APRS. This is a unique opportunity to gain insight into this fast-growing digital aspect of amateur operations that combines computers, packet radio, and GPS (Global Positioning System).

On Saturday night the DCC Banquet will be held. A guest speaker will speak after the banquet and a prize drawing will top the evening. The Grand Prize is a Palm VII Personal Digital Assistant.

The Sunday morning seminar will be focused on PIC development, design, and programming. This five-and-a-half hour seminar will focus on the things you need to know now in order to understand and begin to participate in PIC development.

Co-Hosts
The 2000 ARRL and TAPR Digital Communications Conference local co-hosts will be Lake Monroe Amateur Radio Society (http://www.qsl.net/lmars/),Orange County ARES/RACES(http://evcom.net/~jvoisin/ares.htm), Seminole County ARES/RACES (http://wwww.geocities.com/capecanaveral/launchpad/4773), and Orlando Amateur Radio Club(http://www.oarc.org/).

International Co-Hosts PRUG (Packet Radio User Group of Japan) will be the International co-host for a third year running. PRUG will be hosting an informal social Friday evening before their seminar and symposium is held. Visit http://www.prug.or.jp for more information about PRUG.

Call for Papers
Anyone interested in digital communications is invited to submit a paper for publication in the Conference Proceedings. Presentation at the Conference is not required for publication. Papers are due by August 7th, 2000, and should be submitted to

Maty Weinberg, ARRL
225 Main Street
Newington, CT 06111

or via the Internet to

lweinberg@arrl.org

Information on paper submission guidelines are available on-line at

http://www.tapr.org/dcc

Hotel
Conference presentations, meetings, and seminars will be held at the Orlando Airport Marriott. It is highly recommended that you book your room prior to arriving. A special DCC room rate of $89/single and $89/double per night has been blocked for 50 rooms and is available until September 1st, 2000. Once the 50 rooms have been reserved, room rates will increase. So be sure to book your rooms early! The hotel provides transportation to and from the Orlando International Airport. Please contact the hotel to arrange specific transportation needs.

Orlando Airport Marriott (conference hotel)
7499 Augusta Drive
Orlando, FL 32822
Phone 407-851-9000, Fax 407-857-6211
(http://marriotthotels.com/MCOAP/)

What you can expect at DCC 2000
- A full day of papers and breakouts for the beginner to the advanced
- Two seminars/symposiums
- The fifth annual Student Paper session.
- A banquet with Special Guest Speaker.
- Informal get-togethers throughout the weekend.
- TAPR Membership Meeting
- An event at which the most important new developments in amateur digital communications are announced.
- Digital 'movers and shakers' from all over the world in attendance.

There are few activities where your participation can be so much fun and important! What a great way to share and renew your enthusiasm for digital amateur radio! A get-together with colleagues and bringing each other up to date on your latest work -- all this, and more, for an unforgettable weekend of amateur radio and digital communications. We hope to see you at the ARRL and TAPR Digital Communications Conference on September 22-24, 2000!

Full information on the conference and hotel information can be obtained by contacting:

Tucson Amateur Packet Radio
Phone: (940) 383-0000.
Fax: (940) 566-2544
Email: tapr@tapr.org
Web: http://www.tapr.org

Registration Form
Contact the TAPR office by Phone 940-383-0000, Fax 940-566-2544, or Internet: http://www.tapr.org and tapr@tapr.org to register or for additional information.

Conference Registration includes: Conference Proceedings, Sessions, Meetings, and Lunch on Saturday.

See http://www.tapr.org/dcc for an on-line registration form or text form for mailing or faxing.

A registration packet will be mailed in September upon receipt of
registration form and payment.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] leave-hfsig-8051H@lists.tapr.org

From: "Mark Harrison" <markh30@bellsouth.net>
Date: Wed, 19 Jul 2000 17:05:57 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-97459-2000.07.19-16.08.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Access your e-mail anywhere, at any time.
Get your FREE BellSouth Web Mail account today!
http://webmail.bellsouth.net

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: HF Emergency Data Communications

From: "Ed Palmer" <palmere@ispchannel.com>
Date: Thu, 20 Jul 2000 21:30:49 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-97708-2000.07.20-21.38.30--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt,

Would you please add me to your HF Emergency Data Comms. mailing list?

Thanks,

--Ed

> E-Mail address: ku4ly@arrl.net
> Name: (or what you want to be called) Ed Palmer
> Callsign: KU4LY
> Location: city, state, country (as appropriate) Navarre, FL USA

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: HF Emergency Data Communications

From: "Ed Palmer" <palmere@ispchannel.com>
Date: Thu, 20 Jul 2000 22:08:45 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-97713-2000.07.20-22.16.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry,

Did a reply instead of new message.

--Ed

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: HF Emergency Data Communications

From: Walt DuBose <dubose@texas.net>
Date: Thu, 20 Jul 2000 22:42:32 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-97716-2000.07.20-22.45.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ed Palmer wrote:
>
> Walt,
>
> Would you please add me to your HF Emergency Data Comms. mailing list?
>
> Thanks,
>
> --Ed
>
> > E-Mail address: ku4ly@arrl.net
> > Name: (or what you want to be called) Ed Palmer
> > Callsign: KU4LY
> > Location: city, state, country (as appropriate) Navarre, FL USA
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

Ok Ed, your on. I haven't sent out much yet put plan to have some
information from Nino Porcino, creater of MT63, in the near future.

Walt/K5YFW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: HF Emergency Data Communications

From: "Stephan Isebeck" <stephan@parsec.co.za>
Date: Fri, 21 Jul 2000 08:34:39 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-97760-2000.07.21-01.25.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just to let you know, Stephan is out of his office until Friday 28 July. I
am sure he will reply to you then.

Regards
Elena
-----Original Message-----
From: Ed Palmer <palmere@ispchannel.com>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Date: Friday, July 21, 2000 4:38 AM
Subject: [hfsig] Re: HF Emergency Data Communications

>Walt,
>
>Would you please add me to your HF Emergency Data Comms. mailing list?
>
>Thanks,
>
>--Ed
>
>> E-Mail address: ku4ly@arrl.net
>> Name: (or what you want to be called) Ed Palmer
>> Callsign: KU4LY
>> Location: city, state, country (as appropriate) Navarre, FL USA
>
>
>
>
>---
>You are currently subscribed to hfsig as: stephan@parsec.co.za
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] MIL-STD-188-110c

From: "Nino Porcino" <porcino@sysonline.it>
Date: Sun, 23 Jul 2000 18:29:14 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98012-2000.07.23-11.46.57--lyris.hfsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Hello,

I'm looking for the MIL-STD-188-110c specification... does someone has a web
reference? I did a websearch but unfortunately found nil. I need it for
writing a 4800 bps soundcard modem... any help is appreciated :-)

Thanks,
- Nino IZ8BLY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] Re: MIL-STD-188-110c

From: Ken Wickwire <kwick@mitre.org>
Date: Sun, 23 Jul 2000 17:25:13 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98020-2000.07.23-12.33.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Try looking for 110A or B.

Nino Porcino wrote:
>
> Hello,
>
> I'm looking for the MIL-STD-188-110c specification... does someone has a web
> reference? I did a websearch but unfortunately found nil. I need it for
> writing a 4800 bps soundcard modem... any help is appreciated :-)
>
> Thanks,
> - Nino IZ8BLY
>
> ---
> You are currently subscribed to hfsig as: KWICK@MITRE.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] Re: MIL-STD-188-110c

From: Leo.Whiteway.in.Kelowna.BC@okanagan.net (Bing),
"Canada..Hamcall - VE7UW" <bingw@okanagan.net>
Date: Sun, 23 Jul 2000 10:41:03 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <porcino@sysonline.it>
Message-ID: <LYR4070-98027-2000.07.23-12.45.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 2000-07-23 hfsig@lists.tapr.org said:
>Hello,
>I'm looking for the MIL-STD-188-110c specification... does someone
>has a web reference? I did a websearch but unfortunately found nil.
>I need it for writing a 4800 bps soundcard modem... any help is
>appreciated :-)
>Thanks,
>- Nino IZ8BLY
>---
>You are currently subscribed to hfsig as: VE7UW@RAC.CA
>To unsubscribe send a blank email to leave-hfsig-3344R@lists.tapr.
>org

Here is what I found using google.com search engine.

+OK 6982 octets

20. (no subject)

From: (unknown sender)
Date: (date unavailable)
Rendered body type: text/plain

```
n.net (8.8.7/SCO5) with ESMTP id KAA01045 for <bingw@okanagan.net>; Sun, 23
Jul 2000 10:35:18 -0700 (PDT)
Message-ID: <397B02BF.8B2597CC@rac.ca>
Date: Sun, 23 Jul 2000 10:35:43 -0400
From: "Leo (Bing) Whiteway" <ve7uw@rac.ca>
Organization: BC Wireless
X-Mailer: Mozilla 4.61 [en] (OS/2; U)
X-Accept-Language: en
MIME-Version: 1.0
To: bingw@okanagan.net
Subject: Google Search: mil-std-188-110c
Content-Type: multipart/mixed;
 boundary="------------77B678A742F86DC959E92D3D"
X-UIDL: a0f18131e0f9a3e3ca11044f2e2e0eeb

This is a multi-part message in MIME format.
--------------77B678A742F86DC959E92D3D
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

http://www.google.com/search?q=mil-std-188-110c&num=10&meta=hl=en&lr=&safe=o
ff&btnG=Google+Search
--
Leo (Bing) Whiteway in Kelowna, BC, Canada. Hamcall - VE7UW
http://www.okanagan.net/users/bingw
IBM PC DOS & with browsers: Arachne and NetTamer
OS/2 WARP 3 HPFS with browser Netscape 2.02XR
Caldera OpenLinux 2.3 with Browser netscape 4.61
--------------77B678A742F86DC959E92D3D
Content-Type: text/html; charset=us-ascii;
 name="search"
Content-Transfer-Encoding: 7bit
Content-Disposition: inline;
 filename="search"
Content-Base: "http://www.google.com/search?q=mil-std
     -188-110c&num=10&meta=hl=en&lr=&saf
     e=off&btnG=Google+Search"
Content-Location: "http://www.google.com/search?q=mil-std
     -188-110c&num=10&meta=hl=en&lr=&saf
     e=off&btnG=Google+Search"

<html>
<head><META HTTP-EQUIV="content-type" CONTENT="text/html; charset=ISO-8859-1
">
<title>Google Search: mil-std-188-110c </title>
<style><!--
body {font-family: arial,sans-serif;}
div.nav {margin-top: 1ex;}
div.nav A,span.nav {font-size: 10pt; font-family: arial,sans-serif;}
div.nav A,span.big {font-size: 12pt; color: #0000cc;}
div.nav A {font-size: 10pt; color: black;}
//--></style>
</head>
<body bgcolor=#ffffff text=#000000 link=#0000cc vlink=#551A8B alink=#000099>

<form method=GET action="http://ftp.tapr.org/search"><table border=0 cellpadding=0 cellspacing=0>
<tr><td valign=top width=1%><a href="../../../../index.html"><img border=0
src="http://ftp.tapr.org/images/Title_Left.g"
if width=200 height=78 alt="Google "></a></td><td align=left valign=middle><
INPUT type=text name=q size=31 maxlength=256 value="mil-std-188-110c"><SELEC
T name=num><option value=10 SELECTED>10 results<option value=30>30 results<o
ption value=100>100 results</SELECT>
<SELECT name=meta><option value=hl=en&amp;lr= SELECTED>All Languages<option
value=hl=da&amp;lr=lang_da>Danish<option value=hl=nl&amp;lr=lang_nl>Dutch<op
tion value=hl=en&amp;lr=lang_en>English<option value=hl=fi&amp;lr=lang_fi>Fi
nnish<option value=hl=fr&amp;lr=lang_fr>French<option value=hl=de&amp;lr=lan
g_de>German<option value=hl=it&amp;lr=lang_it>Italian<option value=hl=ko&amp
;lr=lang_ko>Korean<option value=hl=no&amp;lr=lang_no>Norwegian<option value=
hl=pt&amp;lr=lang_pt>Portuguese<option value=hl=es&amp;lr=lang_es>Spanish<op
tion value=hl=sv&amp;lr=lang_sv>Swedish<option value=hl=&amp;lr=>Custom</SEL
ECT>
<INPUT TYPE=hidden name=safe value=off><nobr><INPUT type=submit name=btnG VA
LUE="Google Search"> <INPUT type=submit name=btnI VALUE="I'm Feeling Lucky">
</nobr><br><font face=arial,sans-serif size=-1>
<A HREF="http://ftp.tapr.org/help.html">Search Tips</A>    <a
href="http://ftp.tapr.org/sear"
ch?q=mil-std-188-110c&hl=en&sa=G&safe=active>SafeSearch is Off</a>
    <A HREF="http://ftp.tapr.org/lang_options.html">Language Options</A>
</font></form>
```

```
</td></tr></table>
<center><i>Tip: In most browsers you can just hit the return key instead of
clicking on the search button.</i></center><hr size=1><center><font color=#6
f6f6f size=-1>Google results <b>1-2</b> of <b>2</b> for <b><a href=/url?q=ht
tp://www.dictionary.com/cgi-bin/dict.pl?term=mil-std&sa=X&start=0&num=1 titl
e="Look up mil-std on dictionary.com"><font color=#6f6f6f>mil-std</font></a>
-188-110c</b>.
Search took <b>0.04</b> seconds.</font></center>
<p><A HREF=http://ns3.qth.net/wun-digest.archive/v01.n1141>ns3.qth.net/wun-d
igest.archive/v01.n1141</A><font size=-1><br> ...(X) 10611.00 LSB, <b>Mil</b
>-<b>Std</b>-<b>188</b>-<b>110C</b> modem, No ANDVT...<br>
 ...(X) 14752.00 USB, <b>Mil</b>-<b>Std</b>-<b>188</b>-<b>110C</b> modem, 24
00 bps,...
<br><font color=green>27k - <A HREF=/search?q=cache:ns3.qth.net/wun-digest.a
rchive/v01.n1141+mil-std-188-110c&hl=en><font color=#6f6f6f>Cached</font></A
> - <A HREF=/search?hl=en&safe=off&num=10&q=related:ns3.qth.net/wun-digest.a
rchive/v01.n1141><font color=#6f6f6f>Similar pages</font></A></font></font><
br>
<p><A HREF=http://www.qth.net/archive/wun/199902/19990208.html>www.qth.net/a
rchive/wun/199902/19990208.html</A><font size=-1><br> ...&gt; 10611.00 LSB,
<b>Mil</b>-<b>Std</b>-<b>188</b>-<b>110C</b> modem, No ANDVT...<br>
 ...&gt; 14752.00 USB, <b>Mil</b>-<b>Std</b>-<b>188</b>-<b>110C</b> modem, 2
400 bps,...
<br><font color=green>43k - <A HREF=/search?q=cache:www.qth.net/archive/wun/
199902/19990208.html+mil-std-188-110c&hl=en><font color=#6f6f6f>Cached</font
></A> - <A HREF=/search?hl=en&safe=off&num=10&q=related:www.qth.net/archive/
wun/199902/19990208.html><font color=#6f6f6f>Similar pages</font></A></font>
</font><br><p><center></center>

<br><center><table border=0 cellpadding=0 cellspacing=0><tr><td nowrap>
<form method=GET action="http://ftp.tapr.org/search"><center><font face=arial,sans-serif><small><
INPUT type=text name=q size=31 maxlength=256 value="mil-std-188-110c"> <INPU
T type=submit name=btnG VALUE="Google Search"><INPUT TYPE=hidden name=safe v
alue=off> <A
HREF="http://ftp.tapr.org/swr?q=mil-std-188-110c&amp;hl=en&amp;safe=off&amp;swrnum=2">Search&nbs
p;within results</A></small></font></form>
</td></tr></table></center><center><font size=-1>Try your query on:<a href="../../../../index.html"
url?sa=S&q=http://av.com/%3Fq=mil-std-188-110c>AltaVista</a> <a href=/url?sa
=S&q=http://deja.com/dnquery.xp%3FQRY=mil-std-188-110c>Deja</a> <a href="http://ftp.tapr.org/url"
?sa=S&q=http://search.excite.com/search.gw%3Fsearch=mil-std-188-110c>Excite<
/a> <a href="http://ftp.tapr.org/url?sa=S&amp;q=http://hotbot.com/%3FMT=mil-std-188-110c">HotBot</a>
<a href="http://ftp.tapr.org/url?sa=S&amp;q=http://go.com/Titles%3Fqt=mil-std-188-110c">Infoseek</a>
<a href="http://ftp.tapr.org/url?sa=S&amp;q=http://lycos.com/cgi-bin/pursuit%3Fquery=mil-std-188-110"
c>Lycos</a> <a href="http://ftp.tapr.org/url?sa=S&amp;q=http://search.yahoo.com/search%3Fp=mil-std-1"
88-110c>Yahoo!</a> <BR></font></center>
<p><center><p><font size=-1><center><a href=http://directory.google.com>Try&
nbsp;our Web Directory</a> - <a href="http://ftp.tapr.org/buttons.html">Get Goog
le Browser Buttons</a> - <a href="http://ftp.tapr.org/adv/intro.html">Your Ad&nb
sp;Here</a> - <a href="http://ftp.tapr.org/websearch_programs.html">Add Google to&nbs
p;your Site</a> - <a href="http://ftp.tapr.org/jobs.html">Smart? Work at Go
ogle</a> - <b><a href="http://ftp.tapr.org/about.html">Everything Else</a></b></center></f
ont><hr size=1><font size=-1 color=#6f6f6f>&copy;2000 Google</font></center>
</body></html>

--------------77B678A742F86DC959E92D3D--


---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
```

21. [hfsig] Re: MIL-STD-188-110c

From: Robert McGwier <rwmcgwier@home.com>
Date: Sun, 23 Jul 2000 18:34:27 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98057-2000.07.23-17.40.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Agreed. 110B has not been published yet. Don't think there IS a 110c.

At 06:25 PM 07/23/2000 Sunday, you wrote:
>Try looking for 110A or B.
>
>Nino Porcino wrote:
> >
> > Hello,
> >
> > I'm looking for the MIL-STD-188-110c specification... does someone has
> a web

> > reference? I did a websearch but unfortunately found nil. I need it for
> > writing a 4800 bps soundcard modem... any help is appreciated :-)
> >
> > Thanks,
> > - Nino IZ8BLY
> >
> > ---
> > You are currently subscribed to hfsig as: KWICK@MITRE.ORG
> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
>---
>You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

22. [hfsig] Re: MIL-STD-188-110c

From: "Bruno Haineault" <bhaineault@home.com>
Date: Sun, 23 Jul 2000 18:48:28 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "Bruno Haineault - office" <bhaineault@dtwc.com>
Message-ID: <LYR4070-98104-2000.07.23-20.58.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Nino,

MS-110C does not officially exist. However, MS-110B does exist as a
"non-classified" draft from the DoD. It is very similar to STANAG-5066 in
regards to the waveforms... but it relies on the STANAG "ARQ" protocol.
Looks like they are slowly starting to harmonize MIL-STD and STANAG ;-)

We are working with a few MS110A/B modems... an interesting one is from
"Wave Science". It is a Type-II "PC-Card" with an external audio interface.
We have ran it all the way up to 9600bps over HF. However, you need at least
a 300-400MHz processor to run it as most of the computations are done in
software. Not in the $$$ range for amateurs, but definitely interesting for
us professionals ;-)

I will email you a copy of the MS-110A/B standard from the office on Monday.

Ciao!

Bruno Haineault, KF6QDP/VE2EQ
Oceanside, California

----- Original Message -----
From: "Nino Porcino" <porcino@sysonline.it>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Sunday, July 23, 2000 09:29
Subject: [hfsig] MIL-STD-188-110c

> Hello,
>
> I'm looking for the MIL-STD-188-110c specification... does someone has a
web
> reference? I did a websearch but unfortunately found nil. I need it for
> writing a 4800 bps soundcard modem... any help is appreciated :-)
>
> Thanks,
> - Nino IZ8BLY
>
>
>
> ---
> You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] Re: MIL-STD-188-110c

From: Charles Brain <chbrain@dircon.co.uk>
Date: Mon, 24 Jul 2000 07:48:07 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98158-2000.07.24-01.53.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bruno Haineault wrote:
>
> Nino,
>
> I will email you a copy of the MS-110A/B standard from the office on Monday.
>
> Ciao!
>
> Bruno Haineault, KF6QDP/VE2EQ
> Oceanside, California
>

Hello Bruno,

I already sent him a copy but I am not sure whether he got it.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Throb V2.4

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Mon, 24 Jul 2000 20:37:19 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <DigitalModes@egroups.com>, <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98266-2000.07.24-14.44.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

Throb 2.4 is now available from:

   http://www.lsear.freeserve.co.uk/throb24.zip

Also Ko Versteeg's sites:

Home site: http://leden.tref.nl/~nl9222tv
Mirror site: http://home.wanadoo.nl/nl9222/index.htm

Also should be soon on David de Souza's:

                    http://www.users.myisp.co.uk/~vfp/downloads.htm

I have weakened and made the bandwidth 144Hz for the 4 Throb/sec mode and
left it at 72Hz for the others. At this bandwidth the 4 Throb/sec speed
behaves very much like the other speeds. At the 8Hz tone separation/72Hz
bandwidth the tones were not orthogonal but the tone patterns were quite
distinct and I still maintain that a neural net would sort them out. I will
work on it.

There are one or two other enhancements, I have squeezed a little more
sensitivity, there are CQ and QRZ buttons and you can click to expand the
valid print screen upon which the non valid one contracts. I have added a
timed single tune-up tone.

One slight problem is that I had to change the idle character from space to
non-printing. At slow speeds this was not a factor but at fast speeds, the
screen would rapidly fill with spaces. This means that the character set is
slightly different and the characters "=" "@" and "?" are "shifted"
characters. Thus 2.4 is not fully compatible with V2.3 in that space and "E"
do not print. Sorry about this, please erase versions before 2.4 except for
one of 2.3 perhaps to alert others to the problem.

Fred OH/DK4ZC, Jose EA3VF and myself had an excellent three-way QSO today
and the package performed well. It is difficult to keep up with typing speed
at 40 wpm.

I still have to work on the PTT problems, please bear with me on this.

73
Lionel
G3PPT

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

25. [hfsig] RE: Throb V2.4

From: Mastenbrook Gary-G13216 <Gary_Mastenbrook-g13216@email.mot.com>
Date: Mon, 24 Jul 2000 14:59:58 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98268-2000.07.24-15.05.04--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Lionel- Thanks for your efforts with this new mode! I have not yet had a chance to look at this technique closely and apologize in advance if the following question is obvious to you and other users of Throb.

Q. Given the similarity between commercial and amateur signals on the HF bands these days, does there exist an obvious difference between Throb and other 'newer' HF modes being used by commercial services? Can we readily tell it apart from other new commercial modes?

One suggestion I've made in the past is to add in a slow CW call sign identifier which runs continuously during the digital amateur station's transmit mode. This CW signal is typically placed at the outside edge of the signal and at reduced amplitude compared to the peak signals associated with the main signal's power spectrum. This method allows amateur observers of the signal to readily identify it as one which 'belongs' in the ham bands. Even at 10 db (or more) down from the main signal, the CW really stands out from the digital signals and makes it obvious that it's an amateur signal and not an intruder in our spectrum. Given the lack of exposure to many of the new digital modes by some of our typical HF operators, any steps which can minimize false "intruder alert" alarms or intentional QRM may be considered.

I'm looking forward to trying out this mode soon. Thanks for considering my question.

Best wishes with Throb 2.4!

73's

Gary N8DMT (n8dmt@<nospam>home.com)

Gary Mastenbrook, Product Visioneering, Motorola, Inc.
50 E. Commerce Drive, Schaumburg, IL 60173
Email: g13216@email[anti-spam_remove_brackets].mot.com
Work Home Page: http://www.mot.com/telematics
Personal Home Page: http://www.qsl.net/n8dmt

-----Original Message-----
From: Lionel Sear [mailto:lionel@lsear.freeserve.co.uk]
Sent: Monday, July 24, 2000 2:37 PM
To: TAPR HF Special Interest Group
Cc: DigitalModes@egroups.com; hfsig@lists.tapr.org
Subject: [hfsig] Throb V2.4

Hi All,

Throb 2.4 is now available from:

http://www.lsear.freeserve.co.uk/throb24.zip

Also Ko Versteeg's sites:

Home site: http://leden.tref.nl/~nl9222tv
Mirror site: http://home.wanadoo.nl/nl9222/index.htm

Also should be soon on David de Souza's:

http://www.users.myisp.co.uk/~vfp/downloads.htm

I have weakened and made the bandwidth 144Hz for the 4 Throb/sec mode and
left it at 72Hz for the others. At this bandwidth the 4 Throb/sec speed
behaves very much like the other speeds. At the 8Hz tone separation/72Hz
bandwidth the tones were not orthogonal but the tone patterns were quite
distinct and I still maintain that a neural net would sort them out. I will
work on it.

There are one or two other enhancements, I have squeezed a little more
sensitivity, there are CQ and QRZ buttons and you can click to expand the
valid print screen upon which the non valid one contracts. I have added a
timed single tune-up tone.

One slight problem is that I had to change the idle character from space to
non-printing. At slow speeds this was not a factor but at fast speeds, the
screen would rapidly fill with spaces. This means that the character set is
slightly different and the characters "=" "@" and "?" are "shifted"
characters. Thus 2.4 is not fully compatible with V2.3 in that space and "E"
do not print. Sorry about this, please erase versions before 2.4 except for
one of 2.3 perhaps to alert others to the problem.

Fred OH/DK4ZC, Jose EA3VF and myself had an excellent three-way QSO today
and the package performed well. It is difficult to keep up with typing speed
at 40 wpm.

I still have to work on the PTT problems, please bear with me on this.

73
Lionel
G3PPT

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

26. [hfsig] Simple Ionospheric Simulator /sound card

From: Michael Keller <keller@gmx.de>
Date: Tue, 25 Jul 2000 17:11:52 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98418-2000.07.25-10.17.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ionospheric Simulator with Soundcard

look at:

  <http://qsl.net/dl6iak/dsp/ionos.html>

73' Mike
dl6iak

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

27. [hfsig] Ionospheric Simulator/ mistake in URL

From: Michael Keller <keller@gmx.de>
Date: Tue, 25 Jul 2000 17:17:49 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98420-2000.07.25-10.23.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ionospheric Simulator with Soundcard

look at:

  <http://www.qsl.net/dl6iak/dsp/ionos.html>

73' Mike
dl6iak

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

28. [hfsig] Ionospheric Simulator

From: mwheatle@trsystems.com
Date: Tue, 25 Jul 2000 12:34:31 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98432-2000.07.25-11.42.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Nice job Mike.

It seems we both are working on a similar type program.
http://www.qsl.net/ae4jy/projects.htm

The difference is yours is working! I only have the AWGN section running
and have just started the Watterson part.

Am curious how you implemented the impulse noise generator. That seems to
be a useful addition.

I have also considered adding an "interference" mode that would add a
secondary wave file capture of a busy ham band to the input signal. Not
very scientific but would be able to test a signals resilience to various
interference conditions.

Also never considered the settling time for the .01Hz IIR filters. Maybe
you could run them at a fast sample rate to get them preloaded then drop
back to the slow operating rate.

Too many fun projects, too little time. :>(

73's
Moe,ae4jy

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

29. [hfsig] ARRL and TAPR 19th Annual Digital Communications Conference

From: "Steven R. Bible" <n7hpr@tapr.org>
Date: Tue, 25 Jul 2000 16:29:58 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98491-2000.07.25-15.35.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

ARRL and TAPR 19th Annual
Digital Communications Conference
September 22-24, 2000 - Orlando, Florida

For more information see: http://www.tapr.org/dcc

Information
Mark your calendar and start making plans to attend the year's premier
event in digital communications. The 19th Annual ARRL and TAPR
Digital Communications Conference will be held September 22-24, 2000,
in Orlando, Florida - just minutes from the Orlando International
Airport.

The ARRL and TAPR Digital Communications Conference is an
international forum for radio amateurs in digital communications,
networking, and related technologies to meet, publish their work, and
present new ideas and techniques for discussion. Presenters and
attendees will have the opportunity to exchange ideas and learn about
recent hardware and software advances, theories, experimental results,
and practical applications. The Digital Communications Conference is
not just for the digital expert, but also for digitally oriented
amateurs of all levels of experience.

A Conference for the Beginner as well
The conference is not just for the digital expert. As in years past
an entire session strand with beginning, intermediate, and advanced
presentations on selected topics in digital communications will be
offered. Some of the topics will include: APRS, Satellite
Communications, TCP/IP, Digital Radio, Spread Spectrum and other
introductory topics. Come to the conference and hear these topics

presented by the experts!

Area Attractions
The Orlando Florida area is famous for its attractions and vacation spots. Disney World, Universal Studios, and Sea World (just to name a few) are within 15 minutes of the hotel. Shuttle service from the hotel will be available for a small fee. Cape Canaveral and Cocoa Beach are a 30 minute drive East of the hotel.

Symposia, Seminars and Banquet
Two symposia/seminars will be held which allow those with additional time and interest to make the most of the Conference. For those who may have interest in just one symposium or seminar, registration for the conference is not required to attend these activities. This allows maximum flexibility for those who may want to participate during the Digital Communications Conference, but do not have an entire weekend to devote to the event.

The Fourth APRS National Symposium will be held on Friday and will be moderated by Steve Dimse, K4HG (the developer of javAPRS). It will likely include many APRS software authors, such as Bob Bruninga, WB4APR (the father ofAPRS), Keith Sproul, WU2Z, Mark Sproul, KB2ICI (the developers of MacAPRS and WinAPRS), Brent Hildebrand, KH2Z (the developer of APRSPLUS), Mike Musick, N0QBF (developer of PocketAPRS), and other nationally known APRS leaders. Join this group for the afternoon and evening for in-depth discussions and presentations on the current and future status of APRS. This is a unique opportunity to gain insight into this fast-growing digital aspect of amateur operations that combines computers, packet radio, and GPS (Global Positioning System).

On Saturday night the DCC Banquet will be held. A guest speaker will speak after the banquet and a prize drawing will top the evening. The Grand Prize is a Palm VII Personal Digital Assistant.

The Sunday morning seminar will be focused on PIC development, design, and programming. This five-and-a-half hour seminar will focus on the things you need to know now in order to understand and begin to participate in PIC development.

Co-Hosts
The 2000 ARRL and TAPR Digital Communications Conference local co-hosts will be Lake Monroe Amateur Radio Society (http://www.qsl.net/lmars/),Orange County ARES/RACES(http://evcom.net/~jvoisin/ares.htm), Seminole County ARES/RACES (http://wwww.geocities.com/capecanaveral/launchpad/4773), and Orlando Amateur Radio Club(http://www.oarc.org/).

International Co-Hosts PRUG (Packet Radio User Group of Japan) will be the International co-host for a third year running. PRUG will be hosting an informal social Friday evening before their seminar and symposium is held. Visit http://www.prug.or.jp for more information about PRUG.

Call for Papers
Anyone interested in digital communications is invited to submit a paper for publication in the Conference Proceedings. Presentation at the Conference is not required for publication. Papers are due by August 7th, 2000, and should be submitted to

Maty Weinberg, ARRL
225 Main Street
Newington, CT 06111

or via the Internet to

lweinberg@arrl.org

Information on paper submission guidelines are available on-line at

http://www.tapr.org/dcc

Hotel
Conference presentations, meetings, and seminars will be held at the Orlando Airport Marriott. It is highly recommended that you book your room prior to arriving. A special DCC room rate of $89/single and $89/double per night has been blocked for 50 rooms and is available until September 1st, 2000. Once the 50 rooms have been reserved, room rates will increase. So be sure to book your rooms early! The hotel

provides transportation to and from the Orlando International Airport.
Please contact the hotel to arrange specific transportation needs.

Orlando Airport Marriott (conference hotel)
7499 Augusta Drive
Orlando, FL 32822
Phone 407-851-9000, Fax 407-857-6211
(http://marriotthotels.com/MCOAP/)

What you can expect at DCC 2000
- A full day of papers and breakouts for the beginner to the advanced
- Two seminars/symposiums
- The fifth annual Student Paper session.
- A banquet with Special Guest Speaker.
- Informal get-togethers throughout the weekend.
- TAPR Membership Meeting
- An event at which the most important new developments in amateur
  digital communications are announced.
- Digital 'movers and shakers' from all over the world in attendance.

There are few activities where your participation can be so much fun
and important! What a great way to share and renew your enthusiasm for
digital amateur radio! A get-together with colleagues and bringing
each other up to date on your latest work -- all this, and more, for
an unforgettable weekend of amateur radio and digital communications.
We hope to see you at the ARRL and TAPR Digital Communications
Conference on September 22-24, 2000!

Full information on the conference and hotel information can be
obtained by contacting:

Tucson Amateur Packet Radio
Phone: (940) 383-0000.
Fax: (940) 566-2544
Email: tapr@tapr.org
Web: http://www.tapr.org

Registration Form
Contact the TAPR office by Phone 940-383-0000, Fax 940-566-2544, or
Internet: http://www.tapr.org and tapr@tapr.org to register or for
additional information.

Conference Registration includes: Conference Proceedings, Sessions,
Meetings, and Lunch on Saturday.

See http://www.tapr.org/dcc for an on-line registration form or
text form for mailing or faxing.

A registration packet will be mailed in September upon receipt of
registration form and payment.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

30. [hfsig] RE: Throb V2.4

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Tue, 25 Jul 2000 20:05:28 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98508-2000.07.25-17.04.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On July 25th Gary Mastenbrook, N8DMT wrote:

>Q. Given the similarity between commercial and amateur signals on the HF
>bands these days, does there exist an obvious difference between Throb and
>other 'newer' HF modes being used by commercial services? Can we readily
>tell it apart from other new commercial modes?
>
>One suggestion I've made in the past is to add in a slow CW call sign
>identifier which runs continuously during the digital amateur station's
>transmit mode. This CW signal is typically placed at the outside edge of
>the signal and at reduced amplitude compared to the peak signals associated
>with the main signal's power spectrum. This method allows amateur
observers
>of the signal to readily identify it as one which 'belongs' in the ham
>bands. Even at 10 db (or more) down from the main signal, the CW really

>stands out from the digital signals and makes it obvious that it's an
>amateur signal and not an intruder in our spectrum. Given the lack of
>exposure to many of the new digital modes by some of our typical HF
>operators, any steps which can minimize false "intruder alert" alarms or
>intentional QRM may be considered.
>

Two good points.

On the first, I suppose a short CW code leading the transmission would be
possible or expanding the CW Ident. to include it e.g. "THROB4 DE X3XXX".

To add a low power slow CW "outrider" to a transmission would be possible,
with the FFT/invFFT filtration now being used it could be close in without
interfering. It might even be a tuning aid for stronger signals.

I will certainly consider modifying the CW I/D as it will be very easy.

Thanks and 73
Lionel G3PPT

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

31. [hfsig] Re: Ionospheric Simulator/ mistake in URL

From: "Roald Otnes" <roaldo@unik.no>
Date: Fri, 28 Jul 2000 3:30:33
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98947-2000.07.28-03.35.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is an interesting project Mike (though the demo version didn't seem to
work on my laptop; probably an incompatible soundcard).

I see that you have restricted Doppler spread to 2 Hz and multipath to 2
ms. If it is technically possible to implement larger values, I suggest
that you consider it. You probably had the "CCIR poor" channel in mind, but
conditions far more severe than this are not uncommon, particularly at high
latitudes.

There exists a preliminary draft to a new ITU-R recommendation, entitled
"Testing of HF modems with inonospheric channel simulators". I received it
in an e-mail in January; it may have changed since that time.

Annex 1 of the draft describes the Watterson model, and in annex 2 some new
sets of simulation parameters are defined. Many of these parameter sets are
worse than the CCIR poor channel. The parameter sets are (two paths with
equal attenuation and Doppler spread, zero Doppler shift):

	Multipath spread	2sigma Doppler spread
Low-latitude quiet	0.5 ms	0.5 Hz
Low-latitude moderate	2 ms	1.5 Hz
Low-latitude disturbed	6 ms	10 Hz
Mid-latitude quiet	0.5 ms	0.1 Hz
Mid-latitude moderate	1 ms	0.5 Hz
Mid-latitude disturbed	2 ms	1 Hz
Mid-latitude disturbed NVIS	7 ms	1 Hz
Highlatitude quiet	1 ms	0.5 Hz
Highlatitude moderate	3 ms	10 Hz
Highlatitude disturbed	7 ms	30 Hz

As you can see, several of these values are outside the range of the
current version of your program.

Good luck with the program!

73 de LA5NJA / Roald Otnes

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

32. [hfsig] Re: Ionospheric Simulator/time delay

From: Michael Keller <keller@gmx.de>
Date: Fri, 28 Jul 2000 11:31:05 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98949-2000.07.28-04.37.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Roald,

thank you for your comments. the actual maximum time delay is up to 5ms (the
2ms are a mistake in the diagram), which can be changed very easy to longer
values, i will do it next time. the doppler spread can be fastened up to 30Hz
with some work. At the moment i am running the noise generator at 5Hz sampling
rate then upsampling to 8KHz.

i am actual using the sb 128 pci soundcard (cheap abt 25$).
i run the simulator also on a notebook with 350MHz with an unknown sound card.
if the pc is to slow, the countdown is not running. if so
try it on a faster PC, the sound card shouldn't be the problem.

73' de Mike Keller
dl6iak

Roald Otnes schrieb:

> This is an interesting project Mike (though the demo version didn't seem to
> work on my laptop; probably an incompatible soundcard).
>
> I see that you have restricted Doppler spread to 2 Hz and multipath to 2
> ms. If it is technically possible to implement larger values, I suggest
> that you consider it. You probably had the "CCIR poor" channel in mind, but
> conditions far more severe than this are not uncommon, particularly at high
> latitudes.
>
> There exists a preliminary draft to a new ITU-R recommendation, entitled
> "Testing of HF modems with inonospheric channel simulators". I received it
> in an e-mail in January; it may have changed since that time.
>
> Annex 1 of the draft describes the Watterson model, and in annex 2 some new
> sets of simulation parameters are defined. Many of these parameter sets are
> worse than the CCIR poor channel. The parameter sets are (two paths with
> equal attenuation and Doppler spread, zero Doppler shift):
>
>   Multipath spread   2sigma Doppler spread
> Low-latitude quiet   0.5 ms   0.5 Hz
> Low-latitude moderate   2   ms   1.5 Hz
> Low-latitude disturbed   6   ms   10   Hz
> Mid-latitude quiet   0.5 ms   0.1 Hz
> Mid-latitude moderate   1   ms   0.5 Hz
> Mid-latitude disturbed   2   ms   1   Hz
> Mid-latitude disturbed NVIS   7   ms   1   Hz
> Highlatitude quiet   1   ms   0.5 Hz
> Highlatitude moderate   3   ms   10   Hz
> Highlatitude disturbed   7   ms   30   Hz
>
> As you can see, several of these values are outside the range of the
> current version of your program.
>
> Good luck with the program!
>
> 73 de LA5NJA / Roald Otnes
>
> ---
> You are currently subscribed to hfsig as: keller@gmx.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

33. [hfsig] Re: Ionospheric Simulator

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 28 Jul 2000 09:11:21 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-98999-2000.07.28-11.16.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Roald,

Thanks for the note on new CCIR channel simulator test conditions. Do you
perhaps have a reference to the designator for that ITU document?

For what it's worth, I had put a "lite" version of my Watterson
channel simulator for Linux on my web page. It had been there for
some time now in beta form. My version of the simulator runs in real
time using full duplex soundcard I/O with no problems on my 233 MHz
Pentium class machine --- I use a generic (cheap) sound card for I/O.
However, the code will also work without a sound card with Unix style
pipes file I/O for faster off-line processing of previously-captured data.
It is not 100% completed but is fully functional as far as CCIR work
is concerned. Eventually, I'll release some further HF noise models that
I've done. i.e., simulated HF noise with PSD approximating real HF
noise. Being GPL and Linux, the tarball contains the source code that you
need to build on your own system. I have had good feedback and would
appreciate any further comments or suggestions before I formally release
version 1.0.

73,

Johan, KC7WW

On Fri, 28 Jul 2000, Roald Otnes wrote:

> This is an interesting project Mike (though the demo version didn't seem to
> work on my laptop; probably an incompatible soundcard).
>
> I see that you have restricted Doppler spread to 2 Hz and multipath to 2
> ms. If it is technically possible to implement larger values, I suggest
> that you consider it. You probably had the "CCIR poor" channel in mind, but
> conditions far more severe than this are not uncommon, particularly at high
> latitudes.
>
> There exists a preliminary draft to a new ITU-R recommendation, entitled
> "Testing of HF modems with inonospheric channel simulators". I received it
> in an e-mail in January; it may have changed since that time.
>
> Annex 1 of the draft describes the Watterson model, and in annex 2 some new
> sets of simulation parameters are defined. Many of these parameter sets are
> worse than the CCIR poor channel. The parameter sets are (two paths with
> equal attenuation and Doppler spread, zero Doppler shift):
>
>   Multipath spread   2sigma Doppler spread
> Low-latitude quiet   0.5 ms   0.5 Hz
> Low-latitude moderate   2   ms   1.5 Hz
> Low-latitude disturbed   6   ms   10   Hz
> Mid-latitude quiet   0.5 ms   0.1 Hz
> Mid-latitude moderate   1   ms   0.5 Hz
> Mid-latitude disturbed   2   ms   1   Hz
> Mid-latitude disturbed NVIS   7   ms   1   Hz
> Highlatitude quiet   1   ms   0.5 Hz
> Highlatitude moderate   3   ms   10   Hz
> Highlatitude disturbed   7   ms   30   Hz
>
> As you can see, several of these values are outside the range of the
> current version of your program.
>
> Good luck with the program!
>
> 73 de LA5NJA / Roald Otnes
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

34. [hfsig] Re: Ionospheric Simulator

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 29 Jul 2000 10:46:10 +1200

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99045-2000.07.28-17.16.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Moe,

I seem to remember a message coming in over the last week or so, (from Mike
DL6IAK I think) reporting a working ionospheric simulator for Windows.

Am I right? If so, could you forward me the message or at least give me the
URL?

Thanks,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

35. [hfsig] <no subject>

From: dellis@gorge.net
Date: Fri, 28 Jul 2000 15:38:46 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99048-2000.07.28-17.43.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi TAPR

I am looking for instructions for HF and VHF packet. These instructions
need to be the basics, that is, step by step information about how to
connect to nodes, bbs, etc.

Where can I find this info?

M. Dan Ellis
K7ALG

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

36. [hfsig] Re: <no subject>

From: "Greg Gross" <satcomm5@mindspring.com>
Date: Sat, 29 Jul 2000 17:26:15 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99243-2000.07.29-17.28.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

HI Dan,
    I hope this URL helps..
http://www.tapr.org/tapr/html/pktf.html

73's
Greg
KE4ROL /AE
----- Original Message -----
From: <dellis@gorge.net>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Sent: Friday, July 28, 2000 5:38 PM
Subject: [hfsig] <no subject>

> Hi TAPR
>
> I am looking for instructions for HF and VHF packet. These instructions
> need to be the basics, that is, step by step information about how to
> connect to nodes, bbs, etc.
>
> Where can I find this info?
>
> M. Dan Ellis
> K7ALG
>
> ---
> You are currently subscribed to hfsig as: satcomm5@mindspring.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

37. [hfsig] Stream V0.83 released

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sun, 30 Jul 2000 14:57:41 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "Wilbert Knol ZL2BSJ" <w.knol@niwa.cri.nz>,
"Rob Glassey ZL2AKM" <robglassey@geocities.com>,
"Gary Bold ZL1AN" <g.bold@auckland.ac.nz>,
"Con ZL2AFP" <zl2afp@iconz.co.nz>,
"Brian ZL1CWN" <harbourlights@xtra.co.nz>,
"Bryan Rentoul ZL1HIT" <bryan@conquest.co.nz>,
"John Shaw ZL1BYZ" <norman@voyager.co.nz>,
"Ron ZL1AJP" <ron_w@clear.net.nz>,
"Sefton Tillman ZL3AIX" <s.tillman@inet.net.nz>,
"Ted Minchin ZL1MT" <tedm@xtra.co.nz>
Message-ID: <LYR4070-99277-2000.07.29-21.28.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

OK folks - new release!

Stream V0.83 is now available for your pleasure -

This software runs two MFSK modes - MFSK16, (16 tones, 16 baud with FEC) now
creating much excitement as a highly robust and reliable DX QSO mode, and
MFSK8 (32 tones, 8 baud with FEC), which is slower, but even more robust.

If you have not tried these modes, you must! They are widely acclaimed as
being much better than PSK31 or MT63, and yet just as sensitive.

New features in V0.83:

* CQ string customizable
* fixed mfsk8 to 32 tones
* coloured waterfall (Hell palette files)
* fixed psk31 behaviour on IDLE (should now be as good as any other PSK31)
* QSP (easy cut & paste) for forwarding messages
* CWID (actually will turn off TX) and related metacommand $CWID
* preloaded macro
* center frequency (right click) customizable
* adjustable idle duration
* invisible backspace in TX buffer where possible

No password is required for this new version !!

Software can be downloaded from:

http://www.qsl.net/zl1bpu/MFSK/software

http://members.xoom.com/ZL1BPU/MFSK/software

http://www.egroups.com/files/MFSK/

There is now a matching help file, which you can download from the same
locations and use it to overlay the one in the release, i.e. do so AFTER
installing V0.83. Please use it, as it described all the new features.

Grateful thanks to Nino IZ8BLY. Have fun!

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

38. [hfsig] Re: Stream V0.83 released

From: Walt DuBose <dubose@texas.net>
Date: Sat, 29 Jul 2000 22:10:44 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99280-2000.07.29-22.14.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Murray,

Is there a release for Linux?

Walt

Coombe Down wrote:
>
> OK folks - new release!
>
> Stream V0.83 is now available for your pleasure -
>
> This software runs two MFSK modes - MFSK16, (16 tones, 16 baud with FEC) now
> creating much excitement as a highly robust and reliable DX QSO mode, and
> MFSK8 (32 tones, 8 baud with FEC), which is slower, but even more robust.
>
> If you have not tried these modes, you must! They are widely acclaimed as
> being much better than PSK31 or MT63, and yet just as sensitive.
>
> New features in V0.83:
>
> * CQ string customizable
> * fixed mfsk8 to 32 tones
> * coloured waterfall (Hell palette files)
> * fixed psk31 behaviour on IDLE (should now be as good as any other PSK31)
> * QSP (easy cut & paste) for forwarding messages
> * CWID (actually will turn off TX) and related metacommand $CWID
> * preloaded macro
> * center frequency (right click) customizable
> * adjustable idle duration
> * invisible backspace in TX buffer where possible
>
> No password is required for this new version !!
>
> Software can be downloaded from:
>
> http://www.qsl.net/zl1bpu/MFSK/software
>
> http://members.xoom.com/ZL1BPU/MFSK/software
>
> http://www.egroups.com/files/MFSK/
>
> There is now a matching help file, which you can download from the same
> locations and use it to overlay the one in the release, i.e. do so AFTER
> installing V0.83. Please use it, as it described all the new features.
>
> Grateful thanks to Nino IZ8BLY. Have fun!
>
> 73,
>
> Murray ZL1BPU
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

39. [hfsig] Re: Stream V0.83 released

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sun, 30 Jul 2000 15:56:47 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99338-2000.07.30-03.24.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt,

No, not yet. I am hoping that Tomi OH2BNS will come up with a version of
MFSK for Linux. As yet we have not released any source code for him,
although the specs and all the codes and algorithms are released.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

40. [hfsig] Re: Ionospheric Simulator Update

From: Michael Keller <keller@gmx.de>
Date: Sun, 30 Jul 2000 11:04:10 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99346-2000.07.30-06.08.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

i did an update to the ionospheric simulator, time delay is now 0-10ms and
doppler spread 0.01 to 80s, should be bad enough.

<http://www.qsl.net/dl6iak>

73' Mike

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

41. [hfsig] Re: Stream V0.83 released

From: Walt DuBose <dubose@texas.net>
Date: Sun, 30 Jul 2000 13:39:37 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99420-2000.07.30-13.43.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Coombe Down wrote:
>
> Walt,
>
> No, not yet. I am hoping that Tomi OH2BNS will come up with a version of
> MFSK for Linux. As yet we have not released any source code for him,
> although the specs and all the codes and algorithms are released.
>
> 73,
>
> Murray ZL1BPU
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

Murray,

Thanks for the quick reply.

I did exchange E-Mail with a few days with Tomi and the subject of
MFSK-16 came up because Nino had something about it...but Tomi said he
wasn't in the process of doing a Linux version of MFSK-16 at present and
I gathered that he wasn't going to in the near future.

My problem is that most emergency managers won't let MS products on
their networks because on emergency management office got hit very hard
with a MS virus during an emergency and shut down their operation.
After that, the word spread among their group that you shouldn't be
using MS in emergency operations due to its susceptibility to viruses so
most have gone back to their Unix mainframe systems for office
automation including E-Mail. So for a ham to come in and recommend the
use of MS on their network is not going to be considered...but
they will allow the use of Unix, Linux, SCO, FreeBSD, etc.

73,

Walt/K5YFW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

42. [hfsig] Re: Ionospheric Simulator

From: "Roald Otnes" <roaldo@unik.no>
Date: Mon, 31 Jul 2000 2:54:15
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99548-2000.07.31-02.59.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Johan,

>Thanks for the note on new CCIR channel simulator test conditions. Do you
>perhaps have a reference to the designator for that ITU document?

The only designator on the document I received in January is "Preliminary
Draft New Recommendation". I will ask my colleague Vivianne Jodalen who
forwarded it to me if she knows what has happened to it since January, as
soon as she is back from vacation in a week or two. Then I will also ask
her to forward the document to me once again, and I can mail it to you (the
file stored on my computer seems to be corrupted, so I only have a
print-out now).

73 de LA5NJA / Roald

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

43. [hfsig] Spectran beta 4 is released

From: Alberto di Bene <dibene@usa.net>
Date: Mon, 31 Jul 2000 11:42:29 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99553-2000.07.31-04.49.29--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

SPECTRAN beta 4, build 110 has been just released.

Beta 4 is a major enhancement with respect to beta 3.
Full duplex, real time audio processing has been added,
with denoising, bandpassing and CW peaking functions.

Here are some of the new features :

- Display of the frequency where the mouse cursor is hovering on.

- Possibility to switch off the visual AGC (not the audio AGC, but
  that AGC that in beta 3 was always applied when computing the
  color of the spectrogram). It has been brought to our attention that
  with strong QRN this AGC had the side effect of 'chopping' otherwise
  quite readable QRSS signals, making difficult to discriminate
  between dots and lines.

- More consistent timing when computing the overlap factor, leading
  to a more constant speed of the spectrogram.

- Semiautomatic procedure for the setting of the Windows mixer.
  The Windows mixer is the most non-standard feature of Win9x,
  a real nightmare (thanks Bill...). Lacking tight specifications,
  every soundcard manufacturer has felt free to implement the mixer
  functions in the way they pleased them more. Hopefully the procedure
  we have devised to set the mixer should take care of this.

- Denoiser : the denoiser is of the Widrow-Hoff type, i.e. a FIR filter
  whose h coefficients are adjusted in real time with the LMS (Least Mean
  Square) algorithm, making the filter to converge towards a dynamic
  solution that minimizes the so-called AWGN noise. We have devised a
  variant of the standard method, where the leaking factor applied to the
  h coefficients has been made proportional to the mean amplitude of the
  audio signal.

- Bandpass : from the low-cut and high-cut limits set with the mouse a
  rectangular windows is defined, its IFFT is computed, then a Hamming
  window is applied to it, and finally a forward FFT is computed, leading
  to a 'well-shaped' filtering window that minimizes the Gibbs phenomenon.
  This window is applied to the FFT of the audio signal, which is then
  brought again in the time domain with an IFFT, ready for further processing.
  You can see a simulation done with Matlab of the final result at this
  URL : http://www.weaksignals.com/images/bandpass.gif
  The irregularities seen on the stop band are due to the simulation of
  rounding the coefficients to 5 significant digits.

- CW Peaking : this function is simply an IIR resonator, with two zeros
  on the real axis at -1 and 1, and two complex conjugate poles at a radius

of 0.995. The angle of the poles is computed in real time, when the frequency
of the desired peak is set with the mouse. This kind of resonator has been
choosen by personal judgement, listening to its effect on CW signals. We
feel that its shape is much more adequate for CW than a 'brick-wall' filter,
even if the stop-band rejection could be better. But you can always use the
CW peak filter and the bandpass filter in cascade, if you so prefer. For those
wanting to see the interesting shape of this filter, there is another
Matlab simulation here : http://www.weaksignals.com/images/cwpeak.gif
A word of warning : the bandpass of this filter is roughly 30 Hz, so if used
with very fast CW it could smooth a bit too much the keying component.

These more or less are the major enhancements of beta 4. Only a few final words
on how to use them. For the mixer setting, Spectran will recognize the first
execution of beta 4 on a given machine, and will automatically start the setup
procedure. Just follow the simple instructions on the screen, and you will not
be bothered again.
To set the filters, a filter definition panel has been added. If you briefly tap
on either Shift key, the panel will appear. Another tap on the Shift key, and it
will disappear. When it is visible, the left mouse button will set the lower limit
of the bandpass, the right mouse button the upper limit. To set the CW peak frequency,
use the combination Ctrl-Left Mouse Button.
To actually switch the filters on and off the audio processing chain, use the red leds
on the left side of the main Spectran panel. If you want to use them all
simultaneously, you need at least a 166 MHz Pentium if you limit the sampling
frequency to 11025 Hz. For 22050 Hz a 266 MHz Pentium should do.
The 'PassThru' led, when choosen, simply activates the rerouting of the input
signal, unprocessed, to the output. In this mode the signal does not incur in the
delay of about one second between input and output, due to the buffering and
processing. It is intended to make tuning easier (which it isn't with the delay...)

This should be all. Sorry for the long message, but a bit of explanations were in
order. One last thing : we need your feedback. We 'think' our mixer setting
procedure should take care of all the possible variations around (it did in our
few test cases), but there is always a case you did not anticipate... so please
tell us how it works on your computer with your soundcard. Thanks.

Spectran beta 4 is freely available here : http:/www.weaksignals.com

73

Alberto I2PHD
Vittorio IK2CZL

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

August 2000

Original source file: hfsig.0008
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0008

1. [hfsig] Spectran beta 4

From: Alberto di Bene <dibene@usa.net>
Date: Tue, 01 Aug 2000 16:25:31 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99816-2000.08.01-09.33.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,
this message is sent to all the reflectors where originally I sent
the announcement of the beta 4 version of Spectran.

While some of the users have been able to have it run correctly, the greatest
part is having problems with the semi-automatic mixer setting procedure.
Vittorio and I are investigating on the possible causes of those problems,
and probably we will produce some debug ad-interim versions that will
help us to better diagnose what happened.

For this we are asking for a number of volunteers to run those debug pgms.
If you are willing to volunteer for this, please contact us. We expect that
the vounteers be proficient with manually setting the Windows mixer, to
reset it from a probable bad state those tests will leave it.

Should we be not able in the end to fix this problem, then we will distribute
another build of Spectran that will not rely on the programmatical setting
of the mixer, though this will mean to renounce to the possibility of the
PassThrough done with a simple mouse click, and the need of manually
setting the mixer before running Spectran.

Thanks for your cooperation

Alberto I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: Spectran beta 4

From: "Andre' Kesteloot" <akestelo@bellatlantic.net>
Date: Tue, 01 Aug 2000 12:14:33 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: dsp-weak-signal@qth.net, tacos@amrad.org, dsp@rf.org, lowfer@qth.net,
dsp@lists.tapr.org, hfsig@lists.tapr.org, rsgb_lf_group@blacksheep.org
Message-ID: <LYR4070-99834-2000.08.01-11.17.45--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Alberto,
I have not encountred any problem when installing Spectran 4 onto my Toshiba 1555 CDS
laptop.
(FYI : 380 MHz AMD K6-2; ESS ES1978S (PCI audio accelerator) supporting 18-bit stereo,
Windows Sound System and Sound Blaster Pro-compatible 3D sound support)

Thanks for all your efforts
73
Andre' Kesteloot N4ICK

****

Alberto di Bene wrote:

> Hi all,
> this message is sent to all the reflectors where originally I sent
> the announcement of the beta 4 version of Spectran.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] DDS Module

From: Talbot Andrew <ACTALBOT@dera.gov.uk>
Date: Wed, 2 Aug 2000 11:46:07 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "'KZY'" <Paul@HF-Inst.co.uk>
Message-ID: <LYR4070-99987-2000.08.02-05.52.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Apologies if you either are not interested or have received this
information several times before but I "borrowed" this set of EMail
reflector addresses from a source who had better remain nameless.   It
does look like as the cream of amateur radio experimenters subscribe to
at least one of these.....

I have recently developed a small DDS module using the AD9850 chip
designed for control from a PC. This can generate signals up to 40MHz at
milli-Hz resolution.   An integral PIC controller allows it to be driven
with simple ASCII text based commands from any serial port. A PCB is
now available with the AD9850 already fitted (as well as bare boards),
the rest of the components are easily found large SMT style or wire
ended devices. Full data and the PCB / chip are available from the
HF-Instruments web site, programmed PICs are also available.

WWW.HF-INST.CO.UK.

The contructional data can be downloaded from here to see what the
module is capable of before purchasing.

We originally had about 40 requests for this module when sounding out
interest and priced the PCBs accordingly. 100 were made and 25 or so had
the AD9850 chips mounted professionally.   So far only about 10 orders
have rolled in and as the finance has been put up front where are all
those who originally expressed interest ?

Andy G4JNT

--
The Information contained in this E-Mail and any subsequent correspondence
is private and is intended solely for the intended recipient(s).
For those other than the recipient any disclosure, copying, distribution,
or any action taken or omitted to be taken in reliance on such information is
prohibited and may be unlawful.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: DDS Module

From: artky1k@ctel.net
Date: Wed, 2 Aug 2000 08:07:07 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-99997-2000.08.02-07.12.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How do we get more info?

The site mentioned is devoid of pricing, and ordering info.

Thanks Andy and GL.

Art

On 2 Aug 00, at 11:46, Talbot Andrew wrote:

> Apologies if you either are not interested or have received this
> information several times before but I "borrowed" this set of EMail
> reflector addresses from a source who had better remain nameless.   It
> does look like as the cream of amateur radio experimenters subscribe
> to at least one of these.....
>
> I have recently developed a small DDS module using the AD9850 chip
> designed for control from a PC. This can generate signals up to 40MHz
> at milli-Hz resolution.   An integral PIC controller allows it to be
> driven with simple ASCII text based commands from any serial port. A
> PCB is now available with the AD9850 already fitted (as well as bare
> boards), the rest of the components are easily found large SMT style
> or wire ended devices. Full data and the PCB / chip are available
> from the HF-Instruments web site, programmed PICs are also available.
>

> WWW.HF-INST.CO.UK.
>
> The contructional data can be downloaded from here to see what the
> module is capable of before purchasing.
>
> We originally had about 40 requests for this module when sounding out
> interest and priced the PCBs accordingly. 100 were made and 25 or so
> had the AD9850 chips mounted professionally.   So far only about 10
> orders have rolled in and as the finance has been put up front where
> are all those who originally expressed interest ?
>
> Andy G4JNT
>
>
>
> --
> The Information contained in this E-Mail and any subsequent
> correspondence is private and is intended solely for the intended
> recipient(s). For those other than the recipient any disclosure,
> copying, distribution, or any action taken or omitted to be taken in
> reliance on such information is prohibited and may be unlawful.
>
> ---
> You are currently subscribed to hfsig as: artky1k@ctel.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] 73'!! I need help!

From: "Marco Panetta" <fuoriservizio@hotmail.com>
Date: Thu, 03 Aug 2000 23:54:51 CEST
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100348-2000.08.03-17.00.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi everybody, finally i discovered a very good newsgroup for my hobby... HAM
Radio, what i need now is start to make some simple program to demodulate
fsk signal, you will say... thats all? Oh yes just to start... what i want
to know is how build some C++ program or better view a simple source code to
sampling, demodulate, and decoding FSK signal like baudot.
I didn't found any source code (C++) of programs like RTTY, BTL,True tty...
and other shareware/freeware programs

The second step will be modify this code to implement multiFSK decoding
(VFT) or multilevel fsk decoding...

A second question for oll of you: which DSB board (KIT) is better to begin
to demodulate fsk, psk.... HF signal ?? The motorola EVM6002 or the Texas
TMS...?????

Thanks for all!!!!   73'   Mark

_____
Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: 73'!! I need help!

From: Michael Keller <keller@gmx.de>
Date: Thu, 03 Aug 2000 23:13:51 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100371-2000.08.03-18.18.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Marco,

to start up with your own projects, i suggest do it on a pc with sound card. a
500MHz PC will be more than equal to an EVM board and more comfortble to
program. save your money for dsp-board. also sharing the progs is more easy.

i updated my old 133 PC with a 500MHz processor, all including a new

motherboard at the price of an EVM. i can run now a FIR-filter of order 2000
and more at 8kHz sampling rate without problems. in my qrl a 700AMD Athlon has
abt the double performance. the code is written in delphi, no line assembler
code. try it, the program of the dsp-filter can be downloaded from my
homepage at
<http://www.qsl.net/dl6iak>
i used to program the SHARC ezkit lite with a adsp21061, which you can buy at
nearly the same price as the EVM. the price includes a C-compiler and floating
point arithmetik including 128kByte OnChip RAM, much better performance as the
the other dsp-kit stuff.
nevertheless, i guess meantime a fast PC is beating them all.

73' Mike
dl6iak

Marco Panetta wrote:

> Hi everybody, finally i discovered a very good newsgroup for my hobby... HAM
> Radio, what i need now is start to make some simple program to demodulate
> fsk signal, you will say... thats all? Oh yes just to start... what i want
> to know is how build some C++ program or better view a simple source code to
> sampling, demodulate, and decoding FSK signal like baudot.
> I didn't found any source code (C++) of programs like RTTY, BTL,True tty...
> and other shareware/freeware programs
>
> The second step will be modify this code to implement multiFSK decoding
> (VFT) or multilevel fsk decoding...
>
> A second question for oll of you: which DSB board (KIT) is better to begin
> to demodulate fsk, psk.... HF signal ?? The motorola EVM6002 or the Texas
> TMS...?????
>
> Thanks for all!!!!   73'   Mark
> ____
> Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com
>
> ---
> You are currently subscribed to hfsig as: keller@gmx.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] R: 73'!! I need help!

From: "Nino Porcino" <porcino@sysonline.it>
Date: Fri, 4 Aug 2000 09:21:21 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100487-2000.08.04-02.28.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Marco,

the best equipment for starting in dsp programming is your computer's
soundcard. It is fast, easy and inexpensive. Furthermore the program you
write will be usable by 95% of the hams who own a PC.

Once you've learned how to use an FFT you can do almost everything! Look
around for C++ sources I know there are many (PSK31, FSK and so on).

Ask if you need something,

- Nino
IZ8BLY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: 73'!! I need help!

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 04 Aug 2000 08:42:37 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>

Message-ID: <LYR4070-100493-2000.08.04-02.48.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Michael Keller wrote:
>
> Hi Marco,
>
> to start up with your own projects, i suggest do it on a pc with sound card. a
> 500MHz PC will be more than equal to an EVM board and more comfortble to
> program. save your money for dsp-board. also sharing the progs is more easy.
>

As an example Neptec in Canada have implemented the MIL-STD 9k6 modem on a 500Mhz PIII
running Linux and it uses about 20% of the available CPU.

I don't have a URL as I picked that up from notes of the HF conference held
at Surrey (U.K) this year.

In my own case I am getting about a 6% utilization on similar hardware when running
an experimental 9k6 TCM packet modem in full duplex.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] hfsig digest: August 03, 2000 -Reply

From: Jeffrey Thorn <JTHORN@gw.dot.state.ny.us>
Date: Fri, 04 Aug 2000 09:13:46 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100549-2000.08.04-08.42.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Although it will cost money National Instruments has that will probably
do what you want . See :

Example Program - Frequency Shift Keying (FSK) with
                                  ComponentWorks - National Instruments
                                  This example shows how to use Frequency Shift
Keying (FSK) with an E Series data acquisition (DAQ)   board in
ComponentWorks. ...

http://digital.ni.com/explprog.nsf/2222373937d4e9a38625666a00831a24/
b553aa45ed0b89e08625664a0081b2a0?OpenDocument - size 10.2K

>>> "TAPR HF Special Interest Group digest" <hfsig@lists.tapr.org>
08/04/00 01:00am >>>
TAPR HF Special Interest Group Digest for Thursday, August 03, 2000.

1. 73'!! I need help!
2. Re: 73'!! I need help!

Subject: 73'!! I need help!
From: "Marco Panetta" <fuoriservizio@hotmail.com>
Date: Thu, 03 Aug 2000 23:54:51 CEST
X-Message-Number: 1

Hi everybody, finally i discovered a very good newsgroup for my
hobby... HAM
Radio, what i need now is start to make some simple program to
demodulate
fsk signal, you will say... thats all? Oh yes just to start... what i want
to know is how build some C++ program or better view a simple source
code to
sampling, demodulate, and decoding FSK signal like baudot.
I didn't found any source code (C++) of programs like RTTY, BTL,True
tty...
and other shareware/freeware programs

The second step will be modify this code to implement multiFSK decoding
(VFT) or multilevel fsk decoding...

A second question for oll of you: which DSB board (KIT) is better to
begin
to demodulate fsk, psk.... HF signal ?? The motorola EVM6002 or the
Texas

TMS...?????

Thanks for all!!!! 73' Mark

_____

Get Your Private, Free E-mail from MSN Hotmail at
http://www.hotmail.com

Subject: Re: 73'!! I need help!
From: Michael Keller <keller@gmx.de>
Date: Thu, 03 Aug 2000 23:13:51 +0000
X-Message-Number: 2

Hi Marco,

to start up with your own projects, i suggest do it on a pc with sound card. a
500MHz PC will be more than equal to an EVM board and more comfortble to
program. save your money for dsp-board. also sharing the progs is more easy.

i updated my old 133 PC with a 500MHz processor, all including a new motherboard at the price of an EVM. i can run now a FIR-filter of order 2000
and more at 8kHz sampling rate without problems. in my qrl a 700AMD Athlon has
abt the double performance. the code is written in delphi, no line assembler
code. try it, the program of the dsp-filter can be downloaded from my homepage at
<http://www.qsl.net/dl6iak>
i used to program the SHARC ezkit lite with a adsp21061, which you can buy at
nearly the same price as the EVM. the price includes a C-compiler and floating
point arithmetik including 128kByte OnChip RAM, much better performance as the
the other dsp-kit stuff.
nevertheless, i guess meantime a fast PC is beating them all.

73' Mike
dl6iak

Marco Panetta wrote:

> Hi everybody, finally i discovered a very good newsgroup for my hobby... HAM
> Radio, what i need now is start to make some simple program to demodulate
> fsk signal, you will say... thats all? Oh yes just to start... what i want
> to know is how build some C++ program or better view a simple source code to
> sampling, demodulate, and decoding FSK signal like baudot.
> I didn't found any source code (C++) of programs like RTTY, BTL,True tty...
> and other shareware/freeware programs
>
> The second step will be modify this code to implement multiFSK decoding
> (VFT) or multilevel fsk decoding...
>
> A second question for oll of you: which DSB board (KIT) is better to begin
> to demodulate fsk, psk.... HF signal ?? The motorola EVM6002 or the Texas
> TMS...?????
>
> Thanks for all!!!! 73' Mark
>

_____

> Get Your Private, Free E-mail from MSN Hotmail at
http://www.hotmail.com
>

> ---
> You are currently subscribed to hfsig as: keller@gmx.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---

END OF DIGEST

You are currently subscribed to hfsig as: jthorn@gw.dot.state.ny.us
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: 73'!! I need help!

From: "KF6QDP" <kf6qdp@amsat.org>
Date: Fri, 4 Aug 2000 07:40:23 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100567-2000.08.04-09.46.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

"WaveSciences" also have a MS-110A/B modem. Their implementation
requires at least a 400MHz machine. The DSP engine is on a Type-II
PC-Card while the number crunching is done in the computer. This
permits the use of laptops for 9k6 "64-QAM" HF data exchanges. They
are working on their 19k2 (2-ISB) portion.

Their 32-bit application runs in Win'98 or NT, and it *does use a
lot* of computer resources! I do believe that a UNIX/LINUX
implementation would probably be more efficient.

Do a search on "WaveSciences" to find them... don't have the URL here
at home.

Bruno Haineault, KF6QDP/VE2EQ
Oceanside, California

- ----- Original Message -----
From: "Charles Brain" <chbrain@dircon.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Friday, August 04, 2000 00:42
Subject: [hfsig] Re: 73'!! I need help!

> Michael Keller wrote:
> >
> > Hi Marco,
> >
> > to start up with your own projects, i suggest do it on a pc with
> > sound card. a 500MHz PC will be more than equal to an EVM board
> > and more comfortble to program. save your money for dsp-board.
> > also sharing the progs is more easy.
> >
>
> As an example Neptec in Canada have implemented the MIL-STD 9k6
> modem on a 500Mhz PIII running Linux and it uses about 20% of the
> available CPU.
>
> I don't have a URL as I picked that up from notes of the HF
> conference held at Surrey (U.K) this year.
>
> In my own case I am getting about a 6% utilization on similar
> hardware when running an experimental 9k6 TCM packet modem in full
> duplex.
>
> - Charles
>
> ---
> You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
> To unsubscribe send a blank email to
> leave-hfsig-4070F@lists.tapr.org

```
-----BEGIN PGP SIGNATURE-----
Version: PGPfreeware 6.5.3 for non-commercial use <http://www.pgp.com>

iQA/AwUBOYrV1SgDFZpEjhi8EQJlDACg+eQleduOCHX5bZB+BvVcNalrCE4An2Rt
JFTn9tgwmKR0ZqTTKcS9vb+p
=jBIr
-----END PGP SIGNATURE-----



---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
```

11. [hfsig] RE: 73'!! I need help!

From: mwheatle@trsystems.com
Date: Fri, 4 Aug 2000 11:19:33 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100582-2000.08.04-10.29.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
The platform i think depends on what you intend to do with your code.

If you want to implement a modem with ARQ then you will find using a
non-realtime general purpose operating system will not work very well due to
the non-deterministic time delays.  Probably have to write a kernel mode
driver for a PC or use a dedicated DSP.

If you want to implement RTTY,PSK31,SSTV, etc that don't have the turn
around timing requirements, then using a soundcard with Linux/Windows is a
lot easier since you can write in a high level language.

If you want to sell/give your program to as many hams as possible then
Windows(argh!) is probably the best choice due to the large user base.

If you want to just mess around on your own, the little DSP eval boards work
great. If you are just learning DSP then i would choose a floating point
version so you don't get bogged down in the nitty gritty implementation
details of fixed point math.  The problem with the eval board is they have a
limited production life so by the time you have created a neat application
for it, it may no longer is available.

For better or worse, i went down the Windows path and have accumulated some
C++ classes for various DSP functions that you are welcome to.  Classes to
talk to soundcards, wavefiles, FFT's, FIR's, IIR's, etc.  There's a lot of
stuff out on the web as well.

Good luck,
moe,ae4jy

>
> Hi everybody, finally i discovered a very good newsgroup for
> my hobby... HAM
> Radio, what i need now is start to make some simple program
> to demodulate
> fsk signal, you will say... thats all? Oh yes just to
> start... what i want
> to know is how build some C++ program or better view a simple
> source code to
> sampling, demodulate, and decoding FSK signal like baudot.
> I didn't found any source code (C++) of programs like RTTY,
> BTL,True tty...
> and other shareware/freeware programs
>
> The second step will be modify this code to implement
> multiFSK decoding
> (VFT) or multilevel fsk decoding...
>
> A second question for oll of you: which DSB board (KIT) is
> better to begin
> to demodulate fsk, psk.... HF signal ?? The motorola EVM6002
> or the Texas
> TMS...?????
>
>
> Thanks for all!!!!                    73'          Mark
```

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Yet another HF simulator program..

From: mwheatle@trsystems.com
Date: Mon, 14 Aug 2000 10:25:17 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-102580-2000.08.14-09.35.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Finally got the Windoze Soundcard HF path simulator program "PathSim"
running.

http://www.qsl.net/ae4jy/

Thanks Johan for your help and suggestions.

This is a beta version so don't bet the ranch on it's results.

I'll try to put together some documentation over the next few months but I
think it is useable as is for now.

Alexander, if you're still lurking on this SIG, I plan on tackling the ML
PSK31 detector again in earnest now that i have a way to simulate
spread/fading channels. Be prepared for some questions! Perhaps if we
discuss here, others can join in and throw in their ideas as well.

73's
moe,ae4jy

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: Yet another HF simulator program..

From: Johan Forrer <forrerj@peak.org>
Date: Mon, 14 Aug 2000 11:46:04 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-102636-2000.08.14-13.52.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Looks cool Moe. Thanks!

73,

Johan

On Mon, 14 Aug 2000 mwheatle@trsystems.com wrote:

> Finally got the Windoze Soundcard HF path simulator program "PathSim"
> running.
>
> http://www.qsl.net/ae4jy/
>
> Thanks Johan for your help and suggestions.
>
> This is a beta version so don't bet the ranch on it's results.
>
> I'll try to put together some documentation over the next few months but I
> think it is useable as is for now.
>
> Alexander, if you're still lurking on this SIG, I plan on tackling the ML
> PSK31 detector again in earnest now that i have a way to simulate
> spread/fading channels. Be prepared for some questions! Perhaps if we
> discuss here, others can join in and throw in their ideas as well.
>
> 73's
> moe,ae4jy
>
>
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG

> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Aintel Down!!!

From: Eduardo Jacob <edu@kender.es>
Date: Tue, 15 Aug 2000 00:11:05 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-102683-2000.08.14-17.23.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have just arrived from a travel that has begun this early morning and 1300 km away from home and I have found that just the day after I left the list server (psk31 and chirps) alone for about 2 weeks, it stopped working. That's truly Murphy demonstration. I apologize for any inconvenience. I can also comment now that I'll be changing the soft for a friendlier one, with the capability to un/subscribe by means of a graphic this month. Stay tuned and again sorry for this first time major outage.

Eduardo/EA2BAJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Beaconing

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Tue, 15 Aug 2000 19:10:08 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <DigitalModes@egroups.com>, <hfsig@lists.tapr.org>,
<Hellschreiber@egroups.com>
Message-ID: <LYR4070-102876-2000.08.15-13.31.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All

With the rapid evolution of various new modes, one of our greatest problems is the objective comparison of one mode to another and testing to see if improvements in technique really are improvements.

The availability of Ionospheric Simulator packages is clearly going to be very important and I am going to spend some time in that direction.

I do wonder if we could focus the enormous potential participative effort there is out there by making more use of "beaconing". I do recall that at the time of last years eclipse the Hellschreiber Group was able to bring a large number of licensed amateurs and SWL's together to listen very hard on a precise frequency at a precise time to very good effect to monitor for SLOWFELD transmissions. This is an activity that amateurs and SWL's do well and enjoy doing.

A station could, over a half hour period, send different modes at five minute intervals for 3 minutes giving listeners time to reload programs and change settings for the next test. One half hour could be at one power and the next at a suitably reduced power. One hour of effort would not be too onerous for sender or receiver.

To get over the problem of time differences, it would be helpful if software were available to record .WAV files at precise times with programmable recording parameters. Does anybody know of the availability of suitable recording programs?

That also prompts the requirement of the various DSP mode programs to have an optional input from .WAV files, but I would see that as a fairly simple addition. SLOWFELD is able to record data at preset times but as processed data rather than a .WAV file.

Then there is the choice of beaconing station and frequency, and that is worthy of much thought. One that springs to my mind is 10m Southern Africa to EU. The ZS6PW beacon is currently audible in the UK on 28.166 during the day on most days, and this path would allow the possiblility of a QRM free channel with a very low background noise.

Just a thought.

73

Lionel
G3PPT

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Beaconing

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Thu, 17 Aug 2000 08:26:06 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-103211-2000.08.17-02.36.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

Profuse apologies.

ZS6PW is on 28.186 (not 28166)

73
Lionel
G3PPT

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] R: [MFSK] Beaconing

From: "Nino Porcino" <porcino@sysonline.it>
Date: Thu, 17 Aug 2000 09:51:40 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <DigitalModes@egroups.com>, <hfsig@lists.tapr.org>,
        <Hellschreiber@egroups.com>
Message-ID: <LYR4070-103212-2000.08.17-03.02.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Re on beaconing:

producing beaconing .WAV files it is easy if you have a soundcard with
possibility of self-sampling. To my knowledge all modern soundcards are
equipped with this option.

An idea would be to record several .wav files of various modes (at different
sidetone frequencies) and mix them together with a WAV editor program. This
way would be possible to test all modes with a single beacon (and single
RTX). They could be arranged this way:

400-700 Hz   RTTY
700-800 Hz   Throb:
800-850 Hz: PSK31
850-900 Hz   FSK31
1000-2000 Hz   MT63
2100-2300 Hz   Hellschreiber
2400-2700 Hz   MFSK16

Just an idea

73 Nino
IZ8BLY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] Re: [Hellschreiber] R: [MFSK] Beaconing

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Thu, 17 Aug 2000 09:53:30 +0100

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <DigitalModes@egroups.com>, <hfsig@lists.tapr.org>,
        <Hellschreiber@egroups.com>
Message-ID: <LYR4070-103215-2000.08.17-04.10.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What a fantastic idea!

To be fair you should include CW, but a single beacon carrying all the modes
simultaneously.....wow!

I will go away and experiment.

73
Lionel
G3PPT

>Re on beaconing:
>
>producing beaconing .WAV files it is easy if you have a soundcard with
>possibility of self-sampling. To my knowledge all modern soundcards are
>equipped with this option.
>
>An idea would be to record several .wav files of various modes (at
different
>sidetone frequencies) and mix them together with a WAV editor program. This
>way would be possible to test all modes with a single beacon (and single
>RTX). They could be arranged this way:
>
>400-700 Hz   RTTY
>700-800 Hz   Throb:
>800-850 Hz: PSK31
>850-900 Hz   FSK31
>1000-2000 Hz   MT63
>2100-2300 Hz   Hellschreiber
>2400-2700 Hz   MFSK16
>
>Just an idea
>
>73 Nino
>IZ8BLY
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] Updated PathSim program.

From: mwheatle@trsystems.com
Date: Wed, 23 Aug 2000 12:34:02 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-104542-2000.08.23-11.43.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a newer version(0.2) of "PathSim" available at
http://www.qsl.net/ae4jy/

Only changes are a few saving options to hopefully make things a little more
user friendly.

Also the GNU GPL source code is there now and the start of a manual.

Anybody have any ideas how to verify the calibration/implementation of this
thing?

Moe, ae4jy

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: Updated PathSim program.

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 23 Aug 2000 11:21:44 -0700 (PDT)

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-104576-2000.08.23-13.30.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Very nice, Moe --- source code is informative and educational, thanks!

On calibration --- that's a tough one, but here's a shot at it:
I guess that one can first check that each path's statistics for fading
rate approximates what is intended. The next step would be to test
compliance to multipath spread.

The first part could be done using a low noise steady signal source, with
the simulator set for simulating flat fading and no additive noise. The
second part could be done using an OOK waveform, the simulator set for
selective fading, and no additive noise, then gather statistics on jitter
of leading (and/or trailing) edges. It would be a distribution where the
outliers should pretty much tally with what the multipath delay was set
at.

Deviations from the expected may point to several things like for
example: the quality of the random number generator, fading bandwidth
filter properties, sampling (interpolating/decimating filtering), dynamic
range etc. FWIW, there are some useful (recent) information to look at:
http://www.hfindustry.com/jun00/List_of_june_00_presentatins.htm

Keep up the good work.

73,

Johan, KC7WW

On Wed, 23 Aug 2000 mwheatle@trsystems.com wrote:

> There is a newer version(0.2) of "PathSim" available at
> http://www.qsl.net/ae4jy/
>
> Only changes are a few saving options to hopefully make things a little more
> user friendly.
>
> Also the GNU GPL source code is there now and the start of a manual.
>
> Anybody have any ideas how to verify the calibration/implementation of this
> thing?
>
> Moe, ae4jy
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] Serial-tone Link-eleven

From: Leif Dehio <leif.dehio@munich.netsurf.de>
Date: Sat, 26 Aug 2000 12:18:05 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-105211-2000.08.26-05.25.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

I'm looking for detailed info on the serial-tone
Link-11 waveform. Anyone out there who can help?

Any support is highly appreciated.

Many tks & Best Regards

-- Leif --

 +---+
 | ******************** Leif Dehio ********************|
 | Location: near Munich/Germany |

```
 | e-mail  : Leif.Dehio@munich.netsurf.de               |
 | Web-page: http://rover.wiesbaden.netsurf.de/~signals  |
 | PGP-key : (v2.6.3i): 0x9B4992F9 on all key servers    |
 |           (v5.x & later): 0x0133BD80 on all servers   |
 +-------------------------------------------------------+


....."From all the things that we lost, we miss our minds the most!"


---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
```

22. [hfsig] Multi-mode Beaconing.

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Sat, 26 Aug 2000 16:51:30 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-105241-2000.08.26-11.01.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

I have succeeded in producing a .WAV file of 5 simultaneous modes for
beaconing.

I connected externally the Wave In and Wave Out soundcard sockets, and then
took 60 second recordings of each mode using the Windows generic recorder. I
then mixed these into one 60 second recording using GoldWave. All modes can
be decoded by playing the combined file back into the respective program.

At present, I play this using the SB16 EnsembeWave player with the file
duplicated in a very long playlist.

The five modes and the frequencies are:

800 Hz	CW Ident.
900 Hz	Throb at 2 Throbs/sec.
1000Hz	Throb at 1 Throb/sec.
1100Hz	PSK31
1400Hz	MFSK16.

Any combination of modes would seem to be possible, but I do not know just
how many modes we could get into the SSB audio spectrum.

I propose to send this continually from 1300utc to 1700utc on Sunday 27th
August on 28.125 USB using around 20 Watts power in total.

A couple of immediate observations:

  It is amazing how CW stands out from the cacophony.

  Using the G3PLX PSK31 V1.08 program to receive the recorded file I get a
40 to 50dB IMD quality figure on idling.

73
Lionel
G3PPT

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] ANNOUNCEMENT: ARRL/TAPR 19th Annual DCC Sep. 22-24

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 28 Aug 2000 10:23:35 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-105589-2000.08.28-09.31.25--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Notice:
September 1, 2000 is the last day to receive the special hotel room rate of
$89/night single or double and the pre-registration price for the
conference.

ARRL and TAPR 19th Annual
Digital Communications Conference
September 22-24, 2000 - Orlando, Florida

For more information see: http://www.tapr.org/dcc

Information
Mark your calendar and start making plans to attend the year's premier event in digital communications. The 19th Annual ARRL and TAPR Digital Communications Conference will be held September 22-24, 2000, in Orlando, Florida - just minutes from the Orlando International Airport.

The ARRL and TAPR Digital Communications Conference is an international forum for radio amateurs in digital communications, networking, and related technologies to meet, publish their work, and present new ideas and techniques for discussion. Presenters and attendees will have the opportunity to exchange ideas and learn about recent hardware and software advances, theories, experimental results, and practical applications. The Digital Communications Conference is not just for the digital expert, but also for digitally oriented amateurs of all levels of experience.

A Conference for the Beginner as well
The conference is not just for the digital expert. As in years past an entire session strand with beginning, intermediate, and advanced presentations on selected topics in digital communications will be offered. Some of the topics will include: APRS, Satellite Communications, TCP/IP, Digital Radio, Spread Spectrum and other introductory topics. Come to the conference and hear these topics presented by the experts!

Area Attractions
The Orlando Florida area is famous for its attractions and vacation spots. Disney World, Universal Studios, and Sea World (just to name a few) are within 15 minutes of the hotel. Shuttle service from the hotel will be available for a small fee. Cape Canaveral and Cocoa Beach are a 30 minute drive East of the hotel.

Symposia, Seminars and Banquet
Two symposia/seminars will be held which allow those with additional time and interest to make the most of the Conference. For those who may have interest in just one symposium or seminar, registration for the conference is not required to attend these activities. This allows maximum flexibility for those who may want to participate during the Digital Communications Conference, but do not have an entire weekend to devote to the event.

The Fourth APRS National Symposium will be held on Friday and will be moderated by Steve Dimse, K4HG (the developer of javAPRS). It will likely include many APRS software authors, such as Bob Bruninga, WB4APR (the father ofAPRS), Keith Sproul, WU2Z, Mark Sproul, KB2ICI (the developers of MacAPRS and WinAPRS), Brent Hildebrand, KH2Z (the developer of APRSPLUS), Mike Musick, N0QBF (developer of PocketAPRS), and other nationally known APRS leaders. Join this group for the afternoon and evening for in-depth discussions and presentations on the current and future status of APRS. This is a unique opportunity to gain insight into this fast-growing digital aspect of amateur operations that combines computers, packet radio, and GPS (Global Positioning System).

On Saturday night the DCC Banquet will be held. A guest speaker will speak after the banquet and a prize drawing will top the evening. The Grand Prize is a Palm VII Personal Digital Assistant and Synergy Systems LLC has donated two M12 development kits and many more.

The Sunday morning seminar will be focused on PIC development, design, and programming. This five-and-a-half hour seminar will focus on the things you need to know now in order to understand and begin to participate in PIC development.

Co-Hosts
The 2000 ARRL and TAPR Digital Communications Conference local co-hosts will be:
Lake Monroe Amateur Radio Society
(http://www.qsl.net/lmars/),
Orange County ARES/RACES
(http://evcom.net/~jvoisin/ares.htm),
Seminole County ARES/RACES
(http://wwww.geocities.com/capecanaveral/launchpad/4773),
and Orlando Amateur Radio Club
(http://www.oarc.org/).

International Co-Hosts PRUG (Packet Radio User Group of Japan) will be the International co-host for a third year running. PRUG will be hosting an informal social Friday evening before their seminar and symposium is held. Visit http://www.prug.or.jp for more information about PRUG.

Hotel
Conference presentations, meetings, and seminars will be held at the Orlando Airport Marriott. It is highly recommended that you book your room prior to arriving. A special DCC room rate of $89/single and $89/double per night has been blocked for 50 rooms and is available until September 1st, 2000. Once the 50 rooms have been reserved, room rates will increase. So be sure to book your rooms early! The hotel provides transportation to and from the Orlando International Airport. Please contact the hotel to arrange specific transportation needs.

Orlando Airport Marriott (conference hotel)
7499 Augusta Drive
Orlando, FL 32822
Phone 407-851-9000, Fax 407-857-6211
(http://marriotthotels.com/MCOAP/)

What you can expect at DCC 2000
- A full day of papers and breakouts for the beginner to the advanced
- Two seminars/symposiums
- The fifth annual Student Paper session.
- A banquet with Special Guest Speaker.
- Informal get-togethers throughout the weekend.
- TAPR Membership Meeting
- An event at which the most important new developments in amateur digital communications are announced.
- Digital 'movers and shakers' from all over the world in attendance.

There are few activities where your participation can be so much fun and important! What a great way to share and renew your enthusiasm for digital amateur radio! A get-together with colleagues and bringing each other up to date on your latest work -- all this, and more, for an unforgettable weekend of amateur radio and digital communications. We hope to see you at the ARRL and TAPR Digital Communications Conference on September 22-24, 2000!

Full information on the conference and hotel information can be obtained by contacting:

Tucson Amateur Packet Radio
Phone: (940) 383-0000.
Fax: (940) 566-2544
Email: tapr@tapr.org
Web: http://www.tapr.org

Registration Form
Contact the TAPR office by Phone 940-383-0000, Fax 940-566-2544, or Internet: http://www.tapr.org and tapr@tapr.org to register or for additional information.

Conference Registration includes: Conference Proceedings, Sessions, Meetings, and Lunch on Saturday.

- Pre-Registration (before Sept 1st)

$45.00 _____

- Registration (after Sept 1) or at door

$55.00 _____

- Saturday Evening Dinner (Limited Space)
Dinner with Guest Speaker
Prize Drawing

$30.00 _____

Symposia/Seminars

- 4th Annual APRS National Symposium
Friday, 1pm - 7pm. $25.00 _____

- Sunday Seminar
PIC Design, Development, and Programming

Sunday, 8:30 am - 2 pm. $20.00 _____

TOTAL _____

Name/Call:

Street Address:

City/State/Zip:

Country:

Phone Number:

Email:

Charge my credit card (circle one):

VISA MasterCard

Acct:

Expiration Date:

Signature on card:

Mail completed registration form with check to:
TAPR
8987-309 E Tanque Verde Rd #3378
Tucson, AZ 85749-9399

Or check http://www.tapr.org/dcc for an on-line registration form.

A registration packet will be mailed in September upon receipt of
registration form and payment.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Re: Updated PathSim program.

From: Michael Keller <keller@gmx.de>
Date: Wed, 30 Aug 2000 20:49:32 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-106437-2000.08.30-15.55.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Mike,

thank very much for your donation, i will transfer the money to these people. i
hope you have some usefull applications of my progs. i am sure, i will add some
other progs next time.

i attached a upgraded version of the dsp-filter for you (with input/output
spectra and change of samplingrate). may be its also for some use for you.
don't hesitate to ask me, if there is something unclear.

if changing the samplingrate, YOU HAVE to PRESS the START button.

73' de Mike
[Attachment: dspfil1.zip; application/x-zip-compressed; 207,117 bytes]

25. [hfsig] Re: Updated PathSim program.

From: Michael Keller <keller@gmx.de>
Date: Thu, 31 Aug 2000 13:08:56 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-106645-2000.08.31-06.20.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi folks,

this was a mistake, this should be a private answer´and there was the wrong email
adress. nevertheless everybody can use the prog for free. sorry for the bandwidth
of this message.

73' Mike

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

September 2000

Original source file: hfsig.0009
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0009

1. [hfsig] Re: Updated PathSim program.

From: "Mike Pastorcich" <kf4hey@hotmail.com>
Date: Thu, 7 Sep 2000 20:45:48 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-108145-2000.09.07-20.48.21--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Mike,

Well, I just returned from Switzerland. When I get over the jet lag and get
a few business things sorted out, I will be able to try your new Ionos
version. I will try to do this over the weekend.

Thanks for the additional software, I will enjoy giving it a try also.

73 de Mike

----- Original Message -----
From: Michael Keller <keller@gmx.de>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Sent: Wednesday, August 30, 2000 3:49 PM
Subject: [hfsig] Re: Updated PathSim program.

> Hello Mike,
>
> thank very much for your donation, i will transfer the money to these
people. i
> hope you have some usefull applications of my progs. i am sure, i will add
some
> other progs next time.
>
> i attached a upgraded version of the dsp-filter for you (with input/output
> spectra and change of samplingrate). may be its also for some use for you.
> don't hesitate to ask me, if there is something unclear.
>
> if changing the samplingrate, YOU HAVE to PRESS the START button.
>
> 73' de Mike
>
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] STANAG 4285 Sound samples

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sat, 09 Sep 2000 10:38:21 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-108340-2000.09.09-04.47.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi hfsigers,

Does anyone out there have access to a Stanag 4285 modem, I am
after some clean sound samples. Off air signals are of little use as
they are normally encrypted.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: STANAG 4285 Sound samples

From: Leif Dehio <leif.dehio@munich.netsurf.de>
Date: Sat, 09 Sep 2000 13:32:00 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-108341-2000.09.09-06.40.12--lyris.hfsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

At 10:38 09.09.00 +0100, you wrote:

Hi Charles,

>Does anyone out there have access to a Stanag 4285 modem, I am
>after some clean sound samples. Off air signals are of little use as
>they are normally encrypted.

ask Richard Lacroix <rlacroix@globalserve.net>, he might have access
to a STANAG 4285 modem.

BRGDS

-- Leif --

 +---+
 | ******************** Leif Dehio ********************|
 | Location: near Munich/Germany |
 | e-mail : Leif.Dehio@munich.netsurf.de |
 | Web-page: http://rover.wiesbaden.netsurf.de/~signals |
 | PGP-key : (v2.6.3i): 0x9B4992F9 on all key servers |
 | (v5.x & later): 0x0133BD80 on all servers |
 +---+

...."From all the things that we lost, we miss our minds the most!"

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: STANAG 4285 Sound samples

From: "Bruno Haineault" <bhaineault@home.com>
Date: Sat, 9 Sep 2000 07:53:11 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-108364-2000.09.09-10.00.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles,

What kind of sample are your looking for (type, duration, analog recording
or digital, etc.). I might be able to oblige ;-)

Bruno Haineault, KF6QDP/VE2EQ
Oceanside, California

----- Original Message -----
From: "Charles Brain" <chbrain@dircon.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Saturday, September 09, 2000 02:38
Subject: [hfsig] STANAG 4285 Sound samples

> Hi hfsigers,
>
> Does anyone out there have access to a Stanag 4285 modem, I am
> after some clean sound samples. Off air signals are of little use as
> they are normally encrypted.
>
> - Charles
>
> ---
> You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: STANAG 4285 Sound samples

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sat, 09 Sep 2000 16:04:55 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-108372-2000.09.09-10.13.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bruno Haineault wrote:
>
> Charles,
>
> What kind of sample are your looking for (type, duration, analog recording
> or digital, etc.). I might be able to oblige ;-)
>
> Bruno Haineault, KF6QDP/VE2EQ
> Oceanside, California
>

Hello Bruno,

Short interleaver, any datarate prefer 1200 and 2400 with coding (FEC).

Windows sound file format. A few QBFs would be fine. Only a few seconds
are required i.e long enough to work its way through the Interleaver.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] DCC Update 9/11/2000

From: "Steven R. Bible" <n7hpr@amsat.org>
Date: Mon, 11 Sep 2000 12:19:03 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-108739-2000.09.11-11.27.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

19th Annual ARRL/TAPR Digital Communications Conference
Orlando, FL September 22-24, 2000

** Update 9/11/2000 **

A little more that one week away, the 19th Annual ARRL/TAPR Digital
Communications Conference is about to begin. For detailed information about
the conference, please visit the official DCC web page at
http:www.tapr.org/dcc.

Registration for the conference will be taken at the door. Friday
registration is for an entire afternoon APRS activities, demonstrations, and
presentations. Saturday registration includes conference proceedings,
lunch, and a full day of presentations. Saturday night includes Banquet,
dinner speaker, and prize drawing. Sunday registration is for the PICmicro
Design seminar.

Banquet Prize Drawings:
Grand Prize Kenwood TM-D700A (donated by Kenwood)
2nd Grand Prize Palm VII Personal Digital Assistant
Two Motorola Oncore M12 GPS Evaluation Kits (donated by Synergy Systems,
LLC)

Map and coordinates:
A map of the conference hotel and coordinates are available at
ftp://ftp.tapr.org/dcc/dcc.hotel.map.pdf

Speakers:
The following is a list of presenters. Preliminary schedule is available
from ftp://ftp.tapr.org/dcc/2000.dcc.schedule.pdf

APRS Seminar - Friday September 22, 2000

John Ackerman, N9UR   APRS WG
Steve Bible, N7HPR   T-238 Weather Station
John Blowsky, KB2SCS   APRS LOOKUP
Steve Bragg, KA9MVA   HamHud
Bob Bruninga, WB4APR   APRSdos, satellite, etc.
Steve Dimse, K4HG   Internet APRS
Walter Dunckel, KD6VYV   Serial Control of D7/D700
John Hansen, W2FS   KISS TNC, D700 Keyboard
Dale Huguley, KG5QD   Weather Server
Larry Gahagan, AB0JM   Wildfire Support

Byon Garranrant, N6BG   TinyTrack
Mike Musick, N0QBF   PalmAPRS/Tracker construction
Robert Osband, N4SCY   Public Service with APRS
Tom Schaefer, NY4I   APRS Email Gateway
Darryl Smith, VK2TDS   APRS in the 2000 Olympics
The Sprouls, WU2Z/KB2ICI Mac/Win/XAPRS
Rob Wittner, KZ5RW   APRS-CE

Main Session, Paper Presentation - Saturday 23, 2000
Titles and abstracts are available at
http://www.tapr.org/tapr/html/Fcnc19.html

EasyTrak, A PIC Based Rotor/Radio Controller Interface
By Steve Bible N7HPR

APRS Tiny Web Pages
By Bob Bruninga WB4APR

Channel Capacity Simulation of Peer-to-Peer Spread Spectrum Satellite
Transponders
By Matthew Ettus N2MJI

Correlation for Direct Sequence Spread Spectrum
By Panagiotis Gavalas

PIC-et Radio II: How to Receive AX.25 UI Frames Using Inexpensive PIC
Microcontrollers
By John A. Hansen W2FS

Winlink 2000 ...A Global Ham Message Transfer and Deliver Network
By Hans Kessler N8PGR, Vic Poor W5SMM, Rick Muething KN6KZB, and Steve
Waterman K4CJX

Frequency Offset Acquisition and Tracking Algorithms, Part 1 and Part 2
By Mohamed K. Nezami

External Common Gateway Interface (CGI) Access to FindU
By Thomas M. Schaefer NY4I

Server Applications within APRS Internet Server Environment
By Thomas M. Schaefer NY4I

APRS and the TAPR EasyTrak Az/El Rotor Control System
By Keith Sproul WU2Z

APRS and Kenwood TM-D700 Voice Messaging
By Keith Sproul WU2Z and Mark Sproul KB2ICI

Internet Wide Callsign Database using LDAP
By Mark Sproul KB2ICI

Automatic Voice Relay System
By Bob Bruninga WB4APR

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Throb V2.5

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Sat, 16 Sep 2000 18:39:16 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <DigitalModes@egroups.com>, <hfsig@lists.tapr.org>
Message-ID: <LYR4070-109650-2000.09.16-12.48.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new version 2.5 of Throb which can be downloaded from:

http://www.lsear.freeserve.co.uk/page3.html

or from Ko Versteeg's site:

http://leden.tref.nl/~nl9222tv/software.htm

I have restored sensitivity lost during a previous "improvement", added a
few more macros for convenience and rewritten the soundcard routines so that
input and output are completely separate. This removes the need for full

duplex and, with the soundcard line input externally connected to line
output, allows program output to be recorded to a .WAV file or a .WAV file
used for program input. The program will now work with soundcard clones that
do not allow full duplex operation.

The program is now fairly mature and I have included the program source code
for those interested.

73
Lionel
G3PPT

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: [MFSK] Throb V2.5

From: "Paulus" <paulstra@xs4all.nl>
Date: Sat, 16 Sep 2000 21:30:28 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <DigitalModes@egroups.com>, <hfsig@lists.tapr.org>
Message-ID: <LYR4070-109662-2000.09.16-14.38.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Lionel,

The new version 2.5 looks fb! Thanks.

Hope to do some tests (also on 144.600 MHz) soon again.

Cheerio and 73

de Paul, pa0ocd

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Final Update - DCC Orlando, FL Sep 22-24, 2000

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 18 Sep 2000 12:33:39 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-109954-2000.09.18-11.42.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

19th Annual ARRL/TAPR Digital Communications Conference
Orlando, FL September 22-24, 2000

** Final Update 9/18/2000 **

Counting down the final days until the 19th Annual ARRL/TAPR Digital
Communications Conference this weekend in Orlando, Florida. For detailed
information about the conference, please visit the official DCC web page at
http:www.tapr.org/dcc.

Registration for the conference will be taken at the door. Friday
registration is for an entire afternoon APRS activities, demonstrations, and
presentations. Saturday registration includes conference proceedings,
lunch, and a full day of presentations. Saturday night includes Banquet,
dinner speaker, and prize drawing. Sunday registration is for the PICmicro
Design seminar.

DCC Social:
Please join us Friday evening at 7:00 PM for a social get together time.
The social is generously hosted by the Packet Radio Users Group of Japan
(PRUG).

PRUG Presentation:
Friday night the Packet Radio Users Group of Japan will present talks on
their progress on high-speed digital networks in Japan.

Saturday Night Banquet Speaker:
Mr. Doug Campbell, of Triton Network Systems (http://www.triton-network.com)
will be our DCC Banquet Speaker. Triton Network Systems is located in
Orlando, Florida.

Vice President Product Management, Marketing, & International Business as Vice President of International Sales, Marketing and Product Management, Mr. Campbell leads the assessment of global community needs and spearheads the development of Triton Network Systems' product and marketing strategies.

Mr. Campbell cultivated his management skills in sales, marketing and product development working 17 years for Nortel Networks. While based in Singapore, he built a multifunctional pan-Asian team, which successfully captured a 100% market share with MCI-WorldCom Asia, successfully introducing a number of new products. Prior to this, Mr. Campbell was instrumental in the establishment of an SDH broadband equipment joint venture in China and served as a member of the company's Board of Directors.

Mr. Campbell received a Bachelor of Engineering Physics degree from the Royal Military College of Canada in Kingston, Canada, and a Master of Business Administration from IMD (University of Lausanne) in Switzerland.

Banquet Prize Drawings:
Grand Prize Kenwood TM-D700A (donated by Kenwood)
2nd Grand Prize Palm VII Personal Digital Assistant (donated by TAPR)
Two Motorola Oncore M12 GPS Evaluation Kits (donated by Synergy Systems, LLC)
Microchip PICSTART-PLUS PICmicro Programmer (donated by Microchip)

PIC Seminar Prize Drawing
Microchip MPLAB-ICD (donated by Microchip)

Project and Demonstration Room:
The DCC is a place where people can talk about their projects and gain ideas for new ones. The Project and Demonstration Room has become a recent DCC tradition where people can bring and display their projects. The room will be located next to the registration room and across the hall from the main presentation room. The Project and Demonstration Room will open at registration time and be closed (locked) 11:00 PM Friday and Saturday night.

Map and coordinates:
A map of the conference hotel and coordinates are available at
ftp://ftp.tapr.org/dcc/2000.dcc.hotel.map.pdf

Speakers:
The following is a list of presenters. PDF version available from
ftp://ftp.tapr.org/dcc/2000.dcc.speakers.pdf

Speaking schedule (subject to change) is available from
ftp://ftp.tapr.org/dcc/2000.dcc.schedule.pdf

APRS Seminar - Friday September 22, 2000

John Ackerman, N9UR	APRS WG
Steve Bible, N7HPR	T-238 Weather Station
John Blowsky, KB2SCS	APRS LOOKUP
Bob Bruninga, WB4APR	APRSdos, satellite, etc.
Steve Dimse, K4HG	Internet APRS
Walter Dunckel, KD6VYV	Serial Control of D7/D700
John Hansen, W2FS	KISS TNC, D700 Keyboard
Dale Huguley, KG5QD	Weather Server
Larry Gahagan, AB0JM	Wildfire Support
Byon Garranrant, N6BG	TinyTrack
Mike Musick, N0QBF	PalmAPRS/Tracker construction
Robert Osband, N4SCY	Public Service with APRS
Tom Schaefer, NY4I	APRS Email Gateway
Darryl Smith, VK2TDS	APRS in the 2000 Olympics
The Sprouls, WU2Z/KB2ICI	Mac/Win/XAPRS
Rob Wittner, KZ5RW	APRS-CE

Main Session, Paper Presentation - Saturday 23, 2000
Titles and abstracts are available at
http://www.tapr.org/tapr/html/Fcnc19.html

EasyTrak, A PIC Based Rotor/Radio Controller Interface
By Steve Bible N7HPR

APRS Tiny Web Pages
By Bob Bruninga WB4APR

Channel Capacity Simulation of Peer-to-Peer Spread Spectrum Satellite Transponders
By Matthew Ettus N2MJI

Correlation for Direct Sequence Spread Spectrum
By Panagiotis Gavalas

PIC-et Radio II: How to Receive AX.25 UI Frames Using Inexpensive PIC Microcontrollers
By John A. Hansen W2FS

Winlink 2000 ...A Global Ham Message Transfer and Deliver Network
By Hans Kessler N8PGR, Vic Poor W5SMM, Rick Muething KN6KZB, and Steve Waterman K4CJX

Frequency Offset Acquisition and Tracking Algorithms, Part 1 and Part 2
By Mohamed K. Nezami

APRS and the TAPR EasyTrak Az/El Rotor Control System
By Keith Sproul WU2Z

APRS and Kenwood TM-D700 Voice Messaging
By Keith Sproul WU2Z and Mark Sproul KB2ICI

Internet Wide Callsign Database using LDAP
By Mark Sproul KB2ICI

Automatic Voice Relay System
By Bob Bruninga WB4APR

Introductory Sessions - Saturday 23, 2000

Intro to Packet Radio
By John Ackerman, N8UR

Intro to APRS
By Guy Story, KC5QOI

Intro to Digital Satellites
By Barry Baines, WD4ASW

Into to HF Digital
TBD

Intro to Software Defined Radios
By Steve Bible, N7HPR

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: [MFSK] Throb V2.5

From: Erik Skovgaard <ve7mdl@rac.ca>
Date: Mon, 18 Sep 2000 15:44:39 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <DigitalModes@egroups.com>, <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110016-2000.09.18-18.09.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

All,

Is there a particular frequency that people hang out on?

73 de VE7MDL ....Erik.

At 21:30 00/09/16 +0200, Paulus wrote:
>Hello Lionel,
>
>The new version 2.5 looks fb! Thanks.
>
>Hope to do some tests (also on 144.600 MHz) soon again.
>
>Cheerio and 73
>
>de Paul, pa0ocd
>
>
>
>---

>You are currently subscribed to hfsig as: ve7mdl@rac.ca
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: [MFSK] Throb V2.5

From: "Mike Pastorcich" <kf4hey@hotmail.com>
Date: Mon, 18 Sep 2000 21:15:59 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110033-2000.09.18-21.18.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Erik,

Try 10.135 - 10137MHZ
14.063 and 14.080Mhz
18.102 - 18.105 MHz
21.060 - 21.080 MHz
28.120 - 28.130MHz

Also look for or post CQ requests on DigiDX Live! at
http://dxworld.com/ddx.html

73 de Mike KF4HEY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] INTERFACE ISOLANTE pour PC

From: Dominique FERRAND <dominique.ferrand@st.com>
Date: Tue, 19 Sep 2000 07:28:57 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110089-2000.09.19-05.01.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bonjour

 Je suis a la recherche de documentations pour faire une interface PC
TX/RX isolante a base de transfos ou optocoupleurs

MERCI F6EPW Dominique Grenoble 38

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] RE: INTERFACE ISOLANTE pour PC

From: Francois BERGERET <fbergeret@ges.fr>
Date: Tue, 19 Sep 2000 12:28:59 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110091-2000.09.19-05.36.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bonjour DOMINIQUE,

Existe tout pret chez les grossistes composants electronique francais sous
forme de connecteur male-femelle.

73 de F6HQZ Francois 77

-----Message d'origine-----
De : bounce-hfsig-12268@lists.tapr.org
[mailto:bounce-hfsig-12268@lists.tapr.org]De la part de Dominique
FERRAND
Envoye : mardi 19 septembre 2000 07:29
A : TAPR HF Special Interest Group; hfsig@ges.fr
Objet : [hfsig] INTERFACE ISOLANTE pour PC

Bonjour

 Je suis a la recherche de documentations pour faire une interface PC

TX/RX isolante a base de transfos ou optocoupleurs

MERCI F6EPW Dominique Grenoble 38

You are currently subscribed to hfsig as: fbergeret@ges.fr
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: INTERFACE ISOLANTE pour PC

From: "Michael Pastorcich" <kf4hey@hotmail.com>
Date: Tue, 19 Sep 2000 12:30:29 GMT
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110106-2000.09.19-07.38.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bonjour Dominique,

Vous pouvez trouver des informations sur des interfaces sur suivant le
Website http://www.qsl.net/wm2u/

73 de Mike KF4HEY

>From: Dominique FERRAND <dominique.ferrand@st.com>
>Reply-To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
>To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
>Subject: [hfsig] INTERFACE ISOLANTE pour PC
>Date: Tue, 19 Sep 2000 07:28:57 +0200
>
>Bonjour
>
> Je suis a la recherche de documentations pour faire une interface PC
>TX/RX isolante a base de transfos ou optocoupleurs
>
>MERCI F6EPW Dominique Grenoble 38
>
>---
>You are currently subscribed to hfsig as: kf4hey@hotmail.com
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

_____
Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com.

Share information about yourself, create your own public profile at
http://profiles.msn.com.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: [MFSK] Throb V2.5

From: Erik Skovgaard <ve7mdl@rac.ca>
Date: Tue, 19 Sep 2000 13:40:21 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110168-2000.09.19-15.53.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mike,

Thanks. Will oad up Throb and get on HF as soon as I get a spare moment.

CUL de VE7MDL (also VE0MDL when /MM)   ....Erik.

At 21:15 00/09/18 -0500, you wrote:
>Hello Erik,
>
>Try 10.135 - 10137MHZ
>14.063 and 14.080Mhz
>18.102 - 18.105 MHz
>21.060 - 21.080 MHz
>28.120 - 28.130MHz

>
>Also look for or post CQ requests on DigiDX Live! at
>http://dxworld.com/ddx.html
>
>73 de Mike KF4HEY
>
>
>---
>You are currently subscribed to hfsig as: ve7mdl@rac.ca
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] FS: Motorola DSP56002EVM

From: Ken Harris <KHarri4@attglobal.net>
Date: Tue, 26 Sep 2000 13:07:41 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-111341-2000.09.26-15.16.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For sale: Motorola DSP56002EVM
        Includes Manuals, EEPROM

        $80 obo

The Motorola DSP56002EVM is a low-cost, powerful DSP evaluation module
(EVM)
intended for those experimenting with digital signal processing (DSP)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] TMS320C50 modifications anyone?

From: Dquagliana@aol.com
Date: Wed, 27 Sep 2000 20:34:09 EDT
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-111579-2000.09.27-19.46.14--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Has anyone made modification to the TMS320C50 DSP
evaluation board ? (It says Rev A if that matters).

I'd like to find mods to allow it to run off of DC instead of AC
and a simple PTT circuit for it. I have no problem taking
a soldering iron to the board.

Has anyone already done these mods ? I really hate
reinventing the wheel...

Douglas KA2UPW
dquagliana@aol.com
"Now looking for all things TMS320C50-ish."

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] AVR HF applications

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 28 Sep 2000 18:05:19 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-111622-2000.09.28-00.46.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

Is anybody collecting applications for HF using the AVR family of
processors? I know of a couple of good ones, and it would be nice if someone
was collecting them.

I can offer a really good Morse / Feld-Hell beacon keyer with telemetry, and
I know of an excellent retrofit frequency counter with phase-lock for older
HF rigs.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] TAPR Press Release

From: John Ackermann <jra@febo.com>
Date: Fri, 29 Sep 2000 13:17:50 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: tapr-bb@lists.tapr.org, aprssig@lists.tapr.org, netsig@lists.tapr.org,
bbssig@lists.tapr.org, picsig@lists.tapr.org, hfsig@lists.tapr.org,
tacgps@lists.tapr.org, tapr-org@lists.tapr.org, htaprs@lists.tapr.org
Message-ID: <LYR4070-111846-2000.09.29-12.30.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FOR IMMEDIATE RELEASE

TAPR Elects Officers at 19th Annual Digital Communications Conference

John Ackermann, N8UR, was elected the new president of TAPR at the 19th ARRL/TAPR Digital Communications Conference held in Orlando September 21-24.

135 hams, including a dozen from outside the US, attended the annual event, which includes presentation of technical papers, hands-on demonstrations, and beginner's sessions. Over 100 people attended Friday afternoon's APRS seminar, and 70 were present for a technical symposium on programming PIC chips held Sunday morning.

Ackermann succeeds Greg Jones, WD5IVD, who had served as president since 1993, with Steve Bible, N7HPR, replacing Ackermann as vice president. Bob Hanson, N2GDE, will continue to serve as secretary, and Jim Neely, WA5LHS, remains treasurer. The elections were held at TAPR's annual board meeting, held in conjunction with the DCC.

"Greg Jones led TAPR through a period of growth and innovation," Ackermann said. "On his watch, we brought significant new products to market, including the DSP-93 digital signal processing unit, Totally Accurate Clock, and Mic-E and Pic-E data encoders. Greg also laid the groundwork for our Frequency Hopping Spread Spectrum Radio project. He guided us into the Internet age, along the way creating the TAPR SIG mailing lists that now handle thousands of messages per month. Greg is also responsible for our increased publishing activities. His retirement leaves a void in TAPR that will be hard to fill."

Ackermann said that his primary objective will be to ensure that TAPR remains on the cutting edge of radio technology, with a special emphasis on emerging concepts such as Software Defined Radios. He will also focus on increasing membership and optimizing the organization's management structure.

Ackermann (ex-AG9V), who lives in Dayton, Ohio, has served on the TAPR Board of Directors and as vice president since 1995. He was first licensed in 1974 and has helped build packet radio networks in Ohio and Wisconsin. Ackermann is active on APRS, runs a Linux-based Internet site at his home, and can occasionally be found on CW chasing DX.

Bible lives in Kingsland, Georgia, and has been a TAPR Board member since 1996. He was project manager for TAPR's Totally Accurate Clock (TAC-2), EVM Radio Interface, PIC Encoder, and DGPS Reference Station kits. Bible is leading TAPR's development of a road map to develop Software Defined Radio technology for amateur use.

In other news from the DCC:

* TAPR announced that it will be offering the "EasyTrak" satellite rotor and radio controller. This PIC-based unit will control azimuth and elevation rotors for satellite use, as well as tune popular radios for Doppler correction.

* PRUG, the Packet Radio Users Group of Japan, demonstrated the possibilities of low cost Internet-connected sensors and software mobile agent technology. PRUG also introduced the TINI-AMEDES, a Java based one-board computer with Ethernet interface which supports the Dallas

Semiconductor 1-wire interface, and provided an update on their 2.4Ghz
spread spectrum radio, which has been commercialized by Root, Inc.

* Geoffrey Dick, WA4IKQ, was winner of the grand prize awarded at the
Saturday evening banquet. Geoff won a TM-D700 APRS-capable mobile radio
donated by Kenwood.

DCC 2001 will be held in Cincinnati, Ohio from September 21-23, 2001.
Conference coordinators will be Steve and Sheila Bible assisted by local
coordinator Hank Greeb, N8XX.

About TAPR
TAPR (officially, Tucson Amateur Packet Radio, Inc.) is a non-profit
research and development corporation dedicated to advancing amateur
radio through digital technology. It focuses on development of
hardware and software tools that enable ham radio operators to explore
leading edge technologies. Despite its name, TAPR is an international
organization with over 2000 members worldwide.

Contact information:
Telephone: (940) 383-0000
Email: tapr@tapr.org
Web: http://www.tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: TMS320C50 modifications anyone?

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 29 Sep 2000 18:59:59 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-111895-2000.09.29-15.23.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It's fairly easy to apply external +ve and -ve unreg
supplies to a DSK at the inputs to the regulators. A
-5V charge pump should work too as there's very
little -ve supply current.

The C50 doesn't have any spare I/O pins, so
generating control outputs is a problem.

You can apply general-purpose inputs directly to
bits 8 to 15 of the data bus. They're never used for
anything. In the boot word for 8-bit eprom, they're
don't cares.

You may be able to get general purpose outputs
from the address bus. Disable the AVIS bit and
only external memory accesses will affect the
address bus. The address bus is latched so
will keep the last address accessed on the bus.
As there's nothing out there to be accessed,
you can make whatever accesses you like to
set the address bus pins, rather than to read
or write any data. Of course, it's behaviour
will be not be under your control during boot.

CLKR and CLKX on the TDM port can be read as
general purpose inputs, the IN0 and IN1 bits
are described for this purpose in the databook.
The FSX pin should also be usable as an output.
If the TXM bit is 0, FSX goes tri-state. If TXM is 1,
FSX goes low. Apply a pullup resistor and you
have an output line.

If you want more I/O, you may find it easier to add
shift registers on the TDM port than to add address
decoding and latches to the bus.

I have had a DSK running at 80MHz (ie. 40MIPS).
The DSP can be made to run using x1 clock
mode by changing the clock pins. To run anything
more than IDLE instructions it needed a larger
electrolytic on the +ve supply and a heatsink
on the regulator! There's no guarantee
overclocking will work...

If you have access to the C compiler, I have C
demo files which set up the VBAP for 8kHz and
generate a sine wave in floating-point C. Might
be useful to get you going.

Ant

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

October 2000

Original source file: hfsig.0010
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0010

1. [hfsig] Would you like to recieve $50,000

From: daniel@abc.com
Date: Thu, 5 Oct 2000 21:11:09 -0500 (CDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-113147-2000.10.05-21.19.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well, I finally did it. I signed up for the 50K Club! You can too.
It's only $10 in PayPal money, so I said "What the heck!"

This is brand new, and all you need to do is sign up 10 people who sign up 10 people, etc. If you can do that then you should have $50,000 in your PayPal account before it's all over.Yes,I said FIFTY THOUSAND DOLLARS!

Start now, and whatever you earn is put directly into your PayPal account by your downline. Nobody receives money ahead of you. Someone joins, and five minutes later it's in your account! It's unreal!! Fill your checkbook!! No more building downlines for someone else. What you earn you get! You are thinking maybe you have seen a program like this one before?? You haven't!! There hasn't been one like this before. What makes this Club different is that it works!

Guaranteed!!You start getting paid with your first sign-up. Plus, every sign-up and every payment is verified so no one can cheat or short-change the system! YOU WILL GET
PAID! How much money you make is up to you! Need $10,000 in the next 10 days?

You can have it if you get going immediately! You must take a look at this and get started NOW! Take control TODAY!

This is brand new, so join RIGHT AWAY. You don't want your friends, neighbors or family to join under someone else, do you?

If you don't already have a PayPal account, you will need one. You can apply for one and not only is it FREE to set up, they even PAY YOU $5.00 for opening a new account. I'll send you the necessary info!

Quote: "Even if you are on the right track, you will get run over if you just sit there" [Will Rogers]

Here's what you get the instant you are confirmed:

Advertisement Submission Software. (Fully Functional)
Ad Blaster Software. (Fully Functional)
Search Engine, Directories List, FFA Blaster Software. (Fully Functional) eMail Merge Software. (Fully Functional)
Newsgroups Blaster Access.
Downloadable Ezines.
Full Subscribe, Send, and Unsubscribe opt-in list.
(1 million + subscribers!)
No-Store Email Address Availability.
Off-Line one of a kind Newspaper Ad Submission Software Availability.
Personal Information Manager complete with Calendar, To-Do List, Email Portal,Contact List, Etc.
Daily News, Weather, Sports, Entertainment Horoscope PortalDomain Name Registration.
Articles For Success.
Full Customer Support.

Too get the full details, just respond with a blank email to:
davidad@usa.net with the subject line 50kclub

or click below
mailto:davidad@usa.net?subject=50KClub!

This is a one time email. If you would like to be removed please send an email to

mailto:davidad@usa.net?subject=remove

2. [hfsig] PK 232 and TS-430S

From: "John M. Wilson" <kc4lzn@aol.com>
Date: Sun, 8 Oct 2000 18:1:1
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-113794-2000.10.08-18.09.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

New to HF Digital, trying to set up for Packet, RTTY, etc. Unable to get
the TNC to key the radio. Works fine on VHF with another cable. When wiring
for the plug on the 430, wired MIC, MIC GND and PTT. Is it necessary to
ground the PTT with the MIC in order for the TNC to key the rig?

Anyone with similiar configuration, pls return mail here or at
kc4lzn@n7fsp.org.

John
KC4LZN

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Request for advice

From: Alberto di Bene <dibene@usa.net>
Date: Tue, 10 Oct 2000 17:43:45 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114131-2000.10.10-10.52.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everybody,

          I am seeking advice from the collective mind composed of all the
communications theory experts lurking in this forum.

What I am playing with in my mind is to try to implement an YACP
(Yet Another Communication Program :-) with low data rate,
suitable for very low S/N ratios.

The advice I am seeking is a detail on how to implement correctly
the sampling-rate/datarate synchronization in my code.

But let me first briefly describe the thing :

Suppose I am transmitting 2-out-of-12 frequencies (an MFSK scheme),
with a symbol rate of, let's say, 1 baud.
At the receiving side, suppose I am sampling at 8000 Hz into a
buffer 8000 samples long, giving 1 buffer per second worth of data.

Then I perform an FFT on those data, and find the bins with peak values.
Ideally, if I were synched in time with the TX, I should find
only two peaks, which would then indicate which of the 66 possible
combinations is being transmitted.

As I have no control on the exact frequency, nor the phase, of the
sampling process, what will happen is that, beside those two peaks,
I will have another two, as the sampling time window will have
overlapped the next transmitted symbol.

So, what I think to do is to have a sliding window two samples large,
and, comparing the peaks, decide which couple belongs where.

Admittedly, it is a crude and simple-minded approach, and that's the
reason of my asking. I am sure more refined algorithms do exist around.
Any one willing to shed some light ?

Thanks for any answer,

Alberto   I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: Request for advice

From: Alberto di Bene <dibene@usa.net>
Date: Wed, 11 Oct 2000 11:28:44 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114329-2000.10.11-04.38.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

To clarify a bit my previous posting, the numbers (1 baud, 8000 Hz, etc.)
where there just as an example, they are not the actual numbers I plan to use.

What I am really interested in, is to have an advice on how to cope with
the inter-symbol overlapping. I could of course sample at a much higher rate
than the symbol rate, but of course this would be a tremendous waste of
processing power and/or bandwidth. I am sure there must exist around algorithms
for this purpose. I have been suggested with a private note to use a message
preamble to put things in synch, but, unless something is escaping me, this
cannot be done in my case, as the sampling is done on a sound card, where I
have no control on the clock frequency, nor its phase, so everything must be
done in software.

Thanks for any advice.

73
Alberto   I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: Request for advice

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 12 Oct 2000 06:57:35 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114435-2000.10.11-13.41.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alberto,

I understand completely your problem. It is something already solved with
MFSK16, which is a one-of-n tone MFSK system. There the samping is also at
8000 Hz, but is decimated to 2000 Hz I think, then the samples passed to the
FFT.

The results of the FFT will show an envelope in the time domain
corresponding to the point at which the symbols change, and a sliding sample
can then be used for decoding.

If you were to contact Nino IZ8BLY ninopo@tin.it, he will be able to
describe the process exactly, IN YOUR OWN LANGUAGE! No ampitude modulation
is required, and importantly, no phase coherence, and the result can be
extremely robust, as the natural constant ampitude characteristic of the
signal is sufficient for reliable phasing.

By the way, as well as an overlap due to incorrect phasing of the symbols,
there is also an overlap due to ionospheric effects (multi-path delays), and
this can be countered by using a guard band at the start and finish of the
correctly phased signal prior to the FFT. In Nino's MFSK16 receiver this is
done by shaping the first and last batch of samples per symbol with a raised
cosine envelope, although there are other techniques.

Talk to Nino - it's all been done before. Lionel G3PPT would be a useful
contact as well. I suggest also that you try out MFSK16 - the performance is
all you could wish for! I'd be very pleased if you had a go at coding to the
MFSK16 spec....

73,

Murray ZL1BPU
http://www.qsl.net/zl1bpu/MFSK/

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Watterson HF simulator Issues...

From: mwheatle@trsystems.com
Date: Thu, 12 Oct 2000 13:48:58 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: roaldo@unik.no, dl6iak@gmx.de, a.kurpiers@nt.tu-darmstadt.de
Message-ID: <LYR4070-114608-2000.10.12-12.59.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,
Thought i'd drag this discussion up onto the HFSIG and see if we can stir up some more comments and thoughts on some implementation details of a Watterson HF path simulator.

Background:
Johan,KC7WW and Michael,DL6IAK and myself have been developing our own versions/interpretations of some form of the Watterson HF path simulation model and it was brought up that the fading rate filters may not be correctly chosen to meet some of the standards that exist somewhere out there.

Roald Otnes,LA5NJA has done some extensive testing of both Michaels and my simulator and plotted our filter responses. Michael's program uses a true Gaussian shaped filter while I currently use a 3 pole Butterworth IIR. It seems we both chose fading rate to correspond to the 3dB filter bandwidth of our filters.

He also supplied the following quote from STANAG 4539 Ratification version 1 section 4.6.1:
"The spectrum of the actual filters must match a true Gaussian shape over a range of at least 35 dB(i.e., from the peak out to at least 35 db below the peak)."

Problems/Questions:

1. What should the filter shape be?
The channel model specifies a Gaussian shape. Other sources(books,articles) seem to indicate that is is ok to approximate the Gaussian shape with low order Butterworth IIR filters.

2. What fading frequency should correspond to what filter bandwidth? Should it be the 2 sigma point of the Gaussian filter, the half-power point, or as described below, the 2.17dB point?

Johan supplied another quote:

> In CCIR Report 111 (1959) there is some further discussion regarding the
> relationship between the fading rate and the Gaussian filter bandwidth ...
>
> Quoted from this report ....
>
> "..... the relationship between fading rate Ng (defined as the number of
> times per second that the signal envelope passes through the median signal
> with positive slope), and the equivalent "noise bandwidth" of the fading
> signal is; Ng = 1.48*Sigma, where Sigma is the standard deviation of an
> assumed Gaussian shaped band-pass filter. (This equivalent noise bandwidth
> refers to the received signal only and not the noise that may accompany
> it.) It is equivalent to the 2.17 dB half-bandwidth of the filter. If a
> rectangular filter is assumed then the fading rate Nr is; Nr = B/2.32
> where B is the bandwidth of the filter. The Gaussian shaped filter seems
to
> be a close approximation to the true fading bandwidth of an HF signal
> (Price, 1957) ....."
>
> So, unless I misunderstand this discussion, the Gaussian filter bandwidth
> should be 1.48*Sigma or the 2.17dB half-bandwidth.
>
> Unfortunately I miss a page from CCIR Report 111 that lists the various
> references to why it's like this. Maybe someone else has the Radcliffe
> (1948,) Rice (1948,) and/or Price (1957) papers that would shed more light
> on the mystery.
>
> I do remember Alexander Kurpiers telling me that he generated the Gaussian
> filter from the Watterson paper's formulae then doing an IDFT to get it's
> impulse response. I'd be interested in any way to do this some way
> simpler. As a matter of fact, I recently learned that the Harris channel
> simulator, model RF-3460, uses a six-pole IIR Butterworth filter for this

> approximation. That simulator is a highly-regarded piece of equipment.

Sooooo is there anyone who can shed some more light on this issue?

Appreciate any inputs,

Moe,ae4jy

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Watterson HF simulator Issues...

From: Johan Forrer <forrerj@peak.org>
Date: Thu, 12 Oct 2000 12:56:17 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: roaldo@unik.no, dl6iak@gmx.de, a.kurpiers@nt.tu-darmstadt.de
Message-ID: <LYR4070-114626-2000.10.12-15.05.14--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I have mentioned this before, just a reminder that
another bit of information that you might want to look at too ... see
http://www.hfindustry.com/jun00/HFIA_Furman_chsim_june_00.ppt
This gives a nice overview of the issues, including the consequences for
using different shaped fading filters, and shows Harris' approach
where they actually offer the user a choice between a Butterworth filter
response or a Gaussian response ... I assume that this is because it is
not always required to use a Gaussian filter --- one need to read the
specs closely of what it say (or does not say) about that. STANAG 4415
does specify more precisely their requirements.

Evidently, implementation of a Gaussian filter at the lowest fading rate
(0.1Hz) becomes tricky. Above paper indicates that for 1 Hz fading rate,
the tap update rate are lowered down to some 37 SPS. I can only
speculate, but this happens when a FIR (causal) filter architecture is
implemented. I recently "discovered" a rather interesting recursive
filtering technique for implementing such narrow filters that may be worth
investigating:
http://www.ph.tn.tudelft.nl/~lucas/papers/1998/ICPR98_RGDF.html

I would suggest folks not to go overboard with these special Gaussian
filters ... if you want, include that as an option, but it may be a good
idea to offer at least a 2-pole Butterworth filter. That way your
simulator would be able to be used for comparative work where others
have not used such exotic filters.

Hope this helps.

Johan, KC7WW

On Thu, 12 Oct 2000 mwheatle@trsystems.com wrote:

> Hi all,
> Thought i'd drag this discussion up onto the HFSIG and see if we can stir up
> some more comments and thoughts on some implementation details of a
> Watterson HF path simulator.
>
> Background:
> Johan,KC7WW and Michael,DL6IAK and myself have been developing our own
> versions/interpretations of some form of the Watterson HF path simulation
> model and it was brought up that the fading rate filters may not be
> correctly chosen to meet some of the standards that exist somewhere out
> there.
>
> Roald Otnes,LA5NJA has done some extensive testing of both Michaels and my
> simulator and plotted our filter responses. Michael's program uses a true
> Gaussian shaped filter while I currently use a 3 pole Butterworth IIR. It
> seems we both chose fading rate to correspond to the 3dB filter bandwidth of
> our filters.
>
> He also supplied the following quote from STANAG 4539 Ratification version 1
> section 4.6.1:
> "The spectrum of the actual filters must match a true Gaussian shape over a
> range of at least 35 dB(i.e., from the peak out to at least 35 db below the

> peak)."
>
>
> Problems/Questions:
>
> 1. What should the filter shape be?
> The channel model specifies a Gaussian shape. Other sources(books,articles)
> seem to indicate that is is ok to approximate the Gaussian shape with low
> order Butterworth IIR filters.
>
>
> 2. What fading frequency should correspond to what filter bandwidth? Should
> it be the 2 sigma point of the Gaussian filter, the half-power point, or as
> described below, the 2.17dB point?
>
>
> Johan supplied another quote:
>
> > In CCIR Report 111 (1959) there is some further discussion regarding the
> > relationship between the fading rate and the Gaussian filter bandwidth ...
> >
> > Quoted from this report ....
> >
> > "..... the relationship between fading rate Ng (defined as the number of
> > times per second that the signal envelope passes through the median signal
> > with positive slope), and the equivalent "noise bandwidth" of the fading
> > signal is; Ng = 1.48*Sigma, where Sigma is the standard deviation of an
> > assumed Gaussian shaped band-pass filter. (This equivalent noise bandwidth
> > refers to the received signal only and not the noise that may accompany
> > it.) It is equivalent to the 2.17 dB half-bandwidth of the filter. If a
> > rectangular filter is assumed then the fading rate Nr is; Nr = B/2.32
> > where B is the bandwidth of the filter. The Gaussian shaped filter seems
> to
> > be a close approximation to the true fading bandwidth of an HF signal
> > (Price, 1957) ....."
> >
> > So, unless I misunderstand this discussion, the Gaussian filter bandwidth
> > should be 1.48*Sigma or the 2.17dB half-bandwidth.
> >
> > Unfortunately I miss a page from CCIR Report 111 that lists the various
> > references to why it's like this. Maybe someone else has the Radcliffe
> > (1948,) Rice (1948,) and/or Price (1957) papers that would shed more light
> > on the mystery.
> >
> > I do remember Alexander Kurpiers telling me that he generated the Gaussian
> > filter from the Watterson paper's formulae then doing an IDFT to get it's
> > impulse response. I'd be interested in any way to do this some way
> > simpler. As a matter of fact, I recently learned that the Harris channel
> > simulator, model RF-3460, uses a six-pole IIR Butterworth filter for this
> > approximation. That simulator is a highly-regarded piece of equipment.
>
>
> Sooooo is there anyone who can shed some more light on this issue?
>
> Appreciate any inputs,
>
> Moe,ae4jy
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] RE: Watterson HF simulator Issues...

From: "Roald Otnes" <roaldo@unik.no>
Date: Fri, 13 Oct 2000 09:41:56 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <dl6iak@gmx.de>, <a.kurpiers@nt.tu-darmstadt.de>
Message-ID: <LYR4070-114716-2000.10.13-02.52.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Excuse me for dwelling into the mathematics here :-)

>2. What fading frequency should correspond to what filter bandwidth? Should

>it be the 2 sigma point of the Gaussian filter, the half-power point, or as
>described below, the 2.17dB point?

As far as I have understood, the common notion "Doppler spread" for the
Watterson HF model is the 2 sigma value, i.e. twice the standard deviation
of the Gaussian power spectral density. This is the value that should be
used in comparative plots.

> "..... the relationship between fading rate Ng (defined as the number of
> times per second that the signal envelope passes through the median signal
> with positive slope), and the equivalent "noise bandwidth" of the fading
> signal is; Ng = 1.48*Sigma, where Sigma is the standard deviation of an
> assumed Gaussian shaped band-pass filter. (This equivalent noise bandwidth
> refers to the received signal only and not the noise that may accompany
> it.) It is equivalent to the 2.17 dB half-bandwidth of the filter. If a
> rectangular filter is assumed then the fading rate Nr is; Nr = B/2.32
> where B is the bandwidth of the filter. The Gaussian shaped filter seems
to
> be a close approximation to the true fading bandwidth of an HF signal
> (Price, 1957) ....."
>
> So, unless I misunderstand this discussion, the Gaussian filter bandwidth
> should be 1.48*Sigma or the 2.17dB half-bandwidth.

"It" in the sentence "... equivalent to the 2.17 dB ..." refers to Sigma,
not to Ng.
For a Gaussian filter, sigma (stand.dev. of the _power_ spectral density)
equals the 2.17dB half-bandwidth (do the mathematics yourself if you want to
check it).
The value 1.48*sigma is _not_ the Gaussian filter bandwidth, but Ng, which I
think we should keep out of this discussion (I have seen few "modern" papers
using Ng as the definition of fading rate for HF channels).

My conclusion:
When you use the word "Doppler spread", you should refer to twice the 2.17dB
half-bandwidth. (regardless of the actual filter shape)

Any comments on this?

Roald, LA5NJA

PS.
Since the sampling rate of the fading process has been drawn into the
discussion, I have another quote from the simulator specification in
STANAG4539 Annex B:
"Fading gains shall be computed at least 30 times faster than the desired
fade rate (which is the reciprocal of the Doppler spread), and shall be
interpolated to at least the symbol rate of the waveform (i.e., 2400 samples
per second) to avoid introducing large discontinuities in the output of the
simulator."
DS.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Watterson HF simulator Issues...

From: Michael Keller <keller@gmx.de>
Date: Fri, 13 Oct 2000 09:47:14 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114719-2000.10.13-02.57.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

i will shortly discuss, how i did the gaussian filtering. as i could see on the
diagramm of Roald my approach did meet the stannag 4535 specification,
unfortunatly i made a mistake by choosing the wrong sigma, which i will
correct. my sigma was chosen with respect to the amplitude of the noise and has
to be corrected to meet the power density which is already done but not yet
published (at the moment the value of the doppler spread in my programm has to
be corrected by a factor of 1/sqrt(2)). i think Moe did the same mistake.

the impulsresponse of a gaussian filter is also of gaussian shape and can be
easily calculated by scaling a gaussian function. the problem is at low
frequencies. realizing a good filter performance at 8kHz sampling rate of a low
sigma gaussian filter will need an enormous tap order at 8kHz .

i will shortly explain the way i did the filter, which is working here down to
0.007Hz.

the basic gaussian filter (for doppler spread frequencies below 2Hz) runs at 5
Hz sampling rate with a tap order of 500. the filter is loaded with a gaussian
random number generator and the filtered output is upsampled twice by a factor
of 40 which is 1600. the resulting output is at 5Hz*1600=8kHz. doing that
filtering at 8KHz would nead a tap order of 800.000. upsampling is done with a
lowpass (interpolation) filter of 200 taps.
because of the upsampling the resulting computional complexity is in the order
of a filter of 250 taps at 8kHz. which is not so high.
if someone is interested, i can try to explain it more in detail.

73' Mike
(dl6iak)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: Request for advice

From: Alberto di Bene <dibene@usa.net>
Date: Fri, 13 Oct 2000 11:14:30 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114729-2000.10.13-04.23.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Coombe Down wrote:

> Alberto,
>
> I understand completely your problem. It is something already solved with
> MFSK16, which is a one-of-n tone MFSK system. There the samping is also at
> 8000 Hz, but is decimated to 2000 Hz I think, then the samples passed to the
> FFT.
> [snip]

Murray,
               many thanks for your answer, the only one received so far, apart from
a private note. I have already contacted Lionel, and his answer has been quite
of help, as is this one from you. I will also contact Nino on this subject, but now
I have been put on the right track.

I will have also a look at the MFSK16 specs, but, from your message, I understand
it is a 1-of-N scheme. I would to try a 2-of-N scheme, as using a pair of frequencies
will allow me to use the couple with the greater spacing as a sort of AFC, in the sense
that that couple will delimit the area of interest, thus alleviating the need for a super
precise tuning (at least this is what I think, ready to be corrected !)

Thanks again and 73
Alberto   I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] RE: Watterson HF simulator Issues...

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 13 Oct 2000 08:37:19 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: dl6iak@gmx.de, a.kurpiers@nt.tu-darmstadt.de
Message-ID: <LYR4070-114765-2000.10.13-10.46.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Roald,

Ah yes, I remember stumbling on various definitions of fading rate.
Thanks for reminding me.

Johan, KC7WW

On Fri, 13 Oct 2000, Roald Otnes wrote:

> Excuse me for dwelling into the mathematics here :-)
>
> >2. What fading frequency should correspond to what filter bandwidth? Should
> >it be the 2 sigma point of the Gaussian filter, the half-power point, or as
> >described below, the 2.17dB point?
>
> As far as I have understood, the common notion "Doppler spread" for the
> Watterson HF model is the 2 sigma value, i.e. twice the standard deviation
> of the Gaussian power spectral density. This is the value that should be
> used in comparative plots.
>
> > "..... the relationship between fading rate Ng (defined as the number of
> > times per second that the signal envelope passes through the median signal
> > with positive slope), and the equivalent "noise bandwidth" of the fading
> > signal is; Ng = 1.48*Sigma, where Sigma is the standard deviation of an
> > assumed Gaussian shaped band-pass filter. (This equivalent noise bandwidth
> > refers to the received signal only and not the noise that may accompany
> > it.) It is equivalent to the 2.17 dB half-bandwidth of the filter. If a
> > rectangular filter is assumed then the fading rate Nr is; Nr = B/2.32
> > where B is the bandwidth of the filter. The Gaussian shaped filter seems
> to
> > be a close approximation to the true fading bandwidth of an HF signal
> > (Price, 1957) ....."
> >
> > So, unless I misunderstand this discussion, the Gaussian filter bandwidth
> > should be 1.48*Sigma or the 2.17dB half-bandwidth.
>
> "It" in the sentence "... equivalent to the 2.17 dB ..." refers to Sigma,
> not to Ng.
> For a Gaussian filter, sigma (stand.dev. of the _power_ spectral density)
> equals the 2.17dB half-bandwidth (do the mathematics yourself if you want to
> check it).
> The value 1.48*sigma is _not_ the Gaussian filter bandwidth, but Ng, which I
> think we should keep out of this discussion (I have seen few "modern" papers
> using Ng as the definition of fading rate for HF channels).
>
> My conclusion:
> When you use the word "Doppler spread", you should refer to twice the 2.17dB
> half-bandwidth. (regardless of the actual filter shape)
>
> Any comments on this?
>
> Roald, LA5NJA
>
>
> PS.
> Since the sampling rate of the fading process has been drawn into the
> discussion, I have another quote from the simulator specification in
> STANAG4539 Annex B:
> "Fading gains shall be computed at least 30 times faster than the desired
> fade rate (which is the reciprocal of the Doppler spread), and shall be
> interpolated to at least the symbol rate of the waveform (i.e., 2400 samples
> per second) to avoid introducing large discontinuities in the output of the
> simulator."
> DS.
>
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Re: Watterson HF simulator Issues...

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Fri, 13 Oct 2000 17:46:55 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114766-2000.10.13-10.55.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Michael Keller wrote:

> the basic gaussian filter (for doppler spread frequencies below 2Hz) runs at 5
> Hz sampling rate with a tap order of 500. the filter is loaded with a gaussian
> random number generator and the filtered output is upsampled twice by a factor

> of 40 which is 1600. the resulting output is at 5Hz*1600=8kHz. doing that
> filtering at 8KHz would nead a tap order of 800.000. upsampling is done with a
> lowpass (interpolation) filter of 200 taps.
> because of the upsampling the resulting computional complexity is in the order
> of a filter of 250 taps at 8kHz. which is not so high.
> if someone is interested, i can try to explain it more in detail.

This still is too complicated IMHO. You definetly don't need a 500 tap
filter at 5Hz, maybe 50 will do. If you then calculate the upsampled
impulse response of the filter (without interpolation, the filter itself
is a low pass and you can calculate every tap) and use polyphase
filtering you get a lot of filters but still the complexity stays at 50
taps. For the rest it is sufficient to use linear interpolation. This is
IMHO the best solution so far (more complex than the IIR filter
approximation but still not too complex).

73' Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: Watterson HF simulator Issues...

From: Michael Keller <keller@gmx.de>
Date: Fri, 13 Oct 2000 18:19:42 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114776-2000.10.13-11.29.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alexander Kurpiers schrieb:

> Michael Keller wrote:
>
> > the basic gaussian filter (for doppler spread frequencies below 2Hz) runs at 5
> > Hz sampling rate with a tap order of 500. the filter is loaded with a gaussian
> > random number generator and the filtered output is upsampled twice by a factor
> > of 40 which is 1600. the resulting output is at 5Hz*1600=8kHz. doing that
> > filtering at 8KHz would nead a tap order of 800.000. upsampling is done with a
> > lowpass (interpolation) filter of 200 taps.
> > because of the upsampling the resulting computional complexity is in the order
> > of a filter of 250 taps at 8kHz. which is not so high.
> > if someone is interested, i can try to explain it more in detail.
>
> This still is too complicated IMHO. You definetly don't need a 500 tap
> filter at 5Hz, maybe 50 will do. If you then calculate the upsampled
> impulse response of the filter (without interpolation, the filter itself
> is a low pass and you can calculate every tap) and use polyphase
> filtering you get a lot of filters but still the complexity stays at 50
> taps. For the rest it is sufficient to use linear interpolation. This is
> IMHO the best solution so far (more complex than the IIR filter
> approximation but still not too complex).
>
>

Hi Alexander,

the most computional work is done by interpolating the 8kHz output, which is
determined by the last interpolation filter running at 8kHz. the 500 taps gaussian
running at 5Hz will nearly have no effect (this filter is equal 500/1600 taps at
8kHz, less than one tap at 8kHz). lowering the gaussian filter order to 50 will not
decrease complexity, but lower the filter charactersitic at low sigmas, where the
exp() will fall down very slowly, i remember, i checked it out). i choosed an
interpolation of 200 taps, which can be probably decreased to 50, resulting in a total
equivalent filter of order (500/1600+50/40+50) < 51 taps. for doppler spread greater
2Hz i am upsampling only once time 40. programming a polyphasefilterbank, which i also
did before, is not as easy done (recursive function calling and use of pointered
datastructures, if done in a flexible way). the straight upsampling is very easy to
understand and also straight to programm.

73' Mike

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: Watterson HF simulator Issues...

From: Robert McGwier <rwmcgwier@home.com>
Date: Fri, 13 Oct 2000 14:54:18 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114815-2000.10.13-14.08.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Another way to save huge amounts of computational complexity if
you are going to limit yourselves to FIR structures, is to do linear
convolution with FFT's. n log(n) is a really big win and the overlap
save formulation of this is easy to do. Tell me if you wish for me to
send a C implementation of doing this. I would also be happy to send
anyone that needs it a C implemenation of a resampler where all of
the pointer arithmetic work has been done for you (by me ;-).

Bob

At 12:19 PM 10/13/2000 Friday, you wrote:

>Alexander Kurpiers schrieb:
>
> > Michael Keller wrote:
> >
> > > the basic gaussian filter (for doppler spread frequencies below 2Hz)
> runs at 5
> > > Hz sampling rate with a tap order of 500. the filter is loaded with a
> gaussian
> > > random number generator and the filtered output is upsampled twice by
> a factor
> > > of 40 which is 1600. the resulting output is at 5Hz*1600=8kHz.
> doing that
> > > filtering at 8KHz would nead a tap order of 800.000. upsampling is
> done with a
> > > lowpass (interpolation) filter of 200 taps.
> > > because of the upsampling the resulting computional complexity
> is in the order
> > > of a filter of 250 taps at 8kHz. which is not so high.
> > > if someone is interested, i can try to explain it more in detail.
> >
> > This still is too complicated IMHO. You definetly don't need a 500 tap
> > filter at 5Hz, maybe 50 will do. If you then calculate the upsampled
> > impulse response of the filter (without interpolation, the filter itself
> > is a low pass and you can calculate every tap) and use polyphase
> > filtering you get a lot of filters but still the complexity stays at 50
> > taps. For the rest it is sufficient to use linear interpolation. This is
> > IMHO the best solution so far (more complex than the IIR filter
> > approximation but still not too complex).
> >
> >
>
>Hi Alexander,
>
>the most computional work is done by interpolating the 8kHz output, which is
>determined by the last interpolation filter running at 8kHz. the 500 taps
>gaussian
>running at 5Hz will nearly have no effect (this filter is equal 500/1600
>taps at
>8kHz, less than one tap at 8kHz). lowering the gaussian filter order to
>50 will not
>decrease complexity, but lower the filter charactersitic at low sigmas,
>where the
>exp() will fall down very slowly, i remember, i checked it out). i choosed an
>interpolation of 200 taps, which can be probably decreased to 50,
>resulting in a total
>equivalent filter of order (500/1600+50/40+50) < 51 taps. for doppler
>spread greater
>2Hz i am upsampling only once time 40. programming a polyphasefilterbank,
>which i also
>did before, is not as easy done (recursive function calling and use of

>pointered
>datastructures, if done in a flexible way). the straight upsampling is
>very easy to
>understand and also straight to programm.
>
>73' Mike
>
>
>
>---
>You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: Request for advice

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 14 Oct 2000 10:06:46 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114850-2000.10.13-16.49.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alberto,

Yes, a 2 - of - N system would work equally well. As you will have heard from Lionel, he uses a hybrid 1 or 2 of N system, with raised cosine envelope and therefore it is easy to synchronmise the symbols. It does however require linear transmission.

I took the 1 - of - N approach because it did not require linear amplification, and I thought it would be easier for die-hard RTTY operators to understand and use!

Provided you stay with a spacing of tones that is orthogonal, i.e. equal to the symbol rate or a multiple of it, the FFT receiver will be very effective, although you will need to use a clever technique to find two peaks in the presence of selective fading. If you use raised cosine symbols, as in Throb, you will have no synchronism problems, as an AM detector, or a sum of all the FFT buckets within the signal window, will give you the envelope information. Nino uses a simple correlator to match the shape of the symbol to a known shape to find the peak and slide the samples to match it.

I suggest using about 8 baud, maybe 16 Hz spacing, and a restricted character set (such as ITA2), so one tone would represent a complete character. This would give enough combinations in only 9 tones (36 combinations, leaving a few for idle etc). Without FEC the throughput would be 8 characters / sec, or about 80 WPM! The bandwidth would not exceed 200 Hz.

The importance of an idle sequence comes in assisting the AFC. In fact, if you were to arrange that the average frequency of all data was the centre frequency, which could perhaps be done by injecting special idle sequences, you could force this to be the case. However, if you were (say) to use 10 tones, and use the centre pair only for idle, the AFC would still be easy to achieve. Piccolo used a similar system, where the centre tone represented the idle condition, and was also exactly a multiple of the symbol rate.

I wish you well with the project. I have been thinking of a similar simple approach for a contest mode. Do you plan to use FEC? I recommend the Meggitt coding, which, although an old idea, is highy suitable for a simple system, as it has very low latency (three symbols). The Meggitt coder can also be designed as a "native" coder for any value of "N".

Maybe I can help you further. I'd certainly like to see more use made of MFSK, even if it does dilute the effort!

One further point Alberto, you can subscribe to the MFSK discussion group by sending an email (contents unimportant) to

MFSK-subscribe@egroups.com

I run the MFSK group, and there are about 200 members. Most are just operators, although of course Lionel and Nino are members, along with other

useful people such as Moe AE4JY and Edu EA2BAJ. If you use the group to
recruit testers, you should have plenty of assistance.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: Request for advice

From: Alberto di Bene <dibene@usa.net>
Date: Sat, 14 Oct 2000 00:10:01 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114853-2000.10.13-17.19.14--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Coombe Down wrote:

> Alberto,
>
> Yes, a 2 - of - N system would work equally well. As you will have heard
> from Lionel, he uses a hybrid 1 or 2 of N system, with raised cosine
> envelope and therefore it is easy to synchronmise the symbols. It does
> however require linear transmission.
> [snip]

Murray,
thanks again. Your answers are always very factual, and inspired
by the sincere hope to be of help. A real Ham spirit.
I was thinking about 2-of-12. This would give 66 combinations.
64 of them will be used to code 6 bits, and of the remaining two, that with
the maximum spacing (there will be only one) will be used for AFC.
When I find a maximum-spaced couple, which can be transmitted as a
message preamble, I know where the exact range of tones is, so a sort
of AFC can be implemented. It rest to be seen if this plus is more than
counterweighted by the minus of the need of linear amplification, or not.

The other couple can be used as follows : once you have found the
range, then the couple with minimum spacing, and having one of the two tones
coinciding with one of the two tones of the maximally spaced couple, can be
used for band reversal correction. So it is immaterial if you have the TX set for
USB or LSB. This couple too could be part of the preamble.
On the paper it seems to work. Only the actual coding and on-the-air testing
will tell the truth !

I will digest the stuff, together with an accurate reading of Tom McDermott's
book. The bad season is approaching (not for you Murray !) and in the long,
dark winter evenings I will have something to spend my time on.

TNX es 73
Alberto   I2PHD

P.S.   I have visited your MFSK pages. Congratulations ! They are very professionally
written and full of very useful information.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] Re: Request for advice

From: Robert McGwier <rwmcgwier@home.com>
Date: Fri, 13 Oct 2000 18:12:45 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114854-2000.10.13-17.25.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Murray:

Let me display my ignorance but learn something in return! Please point
me to a reference for the Meggitt coding scheme.   In the stuff I am giving
to Johan for posting on the tapr ftp site, are unrolled 64 and 128 point

FFT routines that I use a lot. 64 is so small that it usually compiles
to occupy a smaller footprint in memory than the routines full of for
loops.

Bob

At 05:06 PM 10/13/2000 Friday, you wrote:
>Alberto,
>
>Yes, a 2 - of - N system would work equally well. As you will have heard
>from Lionel, he uses a hybrid 1 or 2 of N system, with raised cosine
>envelope and therefore it is easy to synchronmise the symbols. It does
>however require linear transmission.
>
>I took the 1 - of - N approach because it did not require linear
>amplification, and I thought it would be easier for die-hard RTTY operators
>to understand and use!
>
>Provided you stay with a spacing of tones that is orthogonal, i.e. equal to
>the symbol rate or a multiple of it, the FFT receiver will be very
>effective, although you will need to use a clever technique to find two
>peaks in the presence of selective fading. If you use raised cosine symbols,
>as in Throb, you will have no synchronism problems, as an AM detector, or a
>sum of all the FFT buckets within the signal window, will give you the
>envelope information. Nino uses a simple correlator to match the shape of
>the symbol to a known shape to find the peak and slide the samples to match
>it.
>
>I suggest using about 8 baud, maybe 16 Hz spacing, and a restricted
>character set (such as ITA2), so one tone would represent a complete
>character. This would give enough combinations in only 9 tones (36
>combinations, leaving a few for idle etc). Without FEC the throughput would
>be 8 characters / sec, or about 80 WPM! The bandwidth would not exceed 200
>Hz.
>
>The importance of an idle sequence comes in assisting the AFC. In fact, if
>you were to arrange that the average frequency of all data was the centre
>frequency, which could perhaps be done by injecting special idle sequences,
>you could force this to be the case. However, if you were (say) to use 10
>tones, and use the centre pair only for idle, the AFC would still be easy to
>achieve. Piccolo used a similar system, where the centre tone represented
>the idle condition, and was also exactly a multiple of the symbol rate.
>
>I wish you well with the project. I have been thinking of a similar simple
>approach for a contest mode. Do you plan to use FEC? I recommend the Meggitt
>coding, which, although an old idea, is highy suitable for a simple system,
>as it has very low latency (three symbols). The Meggitt coder can also be
>designed as a "native" coder for any value of "N".
>
>Maybe I can help you further. I'd certainly like to see more use made of
>MFSK, even if it does dilute the effort!
>
>
>One further point Alberto, you can subscribe to the MFSK discussion group by
>sending an email (contents unimportant) to
>
>MFSK-subscribe@egroups.com
>
>I run the MFSK group, and there are about 200 members. Most are just
>operators, although of course Lionel and Nino are members, along with other
>useful people such as Moe AE4JY and Edu EA2BAJ. If you use the group to
>recruit testers, you should have plenty of assistance.
>
>73,
>
>Murray ZL1BPU
>
>
>
>
>
>
>
>---
>You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] R: Re: Request for advice

From: "Nino Porcino" <porcino@sysonline.it>
Date: Sat, 14 Oct 2000 09:09:55 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114947-2000.10.14-02.21.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alberto, Murray and all,

1 of N system is much better as Murray said. Not only for non-linearity
requirements of transmitter but also because the decision on what is
"strongest bucket" is more precise (due of lobes falling on other buckets).
With 2 of N you must use raised cosine and then must increase spacing
between tones reducing the overall possible number of combinations.

Murray: recovering the clock envelope by summing the FFT buckets works even
with non-raised cosine, is just what I'm doing in MFSK16. So there is no
gain in using the RC. (under my point of view of course).

Alberto: Varicodes++ and convolutional encoding are just fine, they let you
get you rid of syncronizing to symbols etc.... you simply decode the
"stream" of bits. (Anyway if you use them, you just create a replica of MFSK
eh eh I think you want to try something different).

- Nino

P.S. Alberto tried to write you twice but your mailserver refuses my emails
telling me that I am a spammer!! :-((Do you have another emailbox?

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] Re: Request for advice

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 14 Oct 2000 19:50:54 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114948-2000.10.14-02.41.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alberto,

Thanks for your comments. Yes, I think your ideas for AFC and for detecting
the sideband in use would be good. All you have to do is use the unique
signals in such a way that it is obvious which way up you are. That's
simple - make the two unique signals such that one is used for idle, and the
other is NEVER used. If the one that is never used is the same as idle on
the wrong sideband, it tells you immediately that the signal is upside down.

I know you will enjoy this development, and it will be interesting to see
how the performance compares with MFSK16!

One of the other things I wanted to try some time was a narrower system,
using two symbols per character, and one tone of N. It would of course not
be as fast. For example, with only 5 or 6 different tones, used so that only
some combinations are used for the first "half" of the character and the
others for the other "half", it would be easy to detect synchronism because
of the uniqueness, and should also be possible to detect which sideband was
in operation. Piccolo Mk 6 and Coquelet 13 were systems of this type.

Maybe we should continue this discussion direct, rather than via the
refector! My email address is coombedn@ihug.co.nz.

Thanks for your encouraging words about the MFSK web site. There is plenty
more to be added! I can also add anything you want about your work when the
time comes.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: Request for advice

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 14 Oct 2000 19:57:59 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114949-2000.10.14-02.42.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Fine Bob,

I have to say that I have found technical information on Meggitt coding
difficult to ocate as well. The best information I have was in an email from
Peter G3PLX who has experience of Meggitt coding. I believe it is also in
one of the standard texts (title and authors escape me, but printed in the
US, possibly at MIT - do a search for Meggitt, you should find it). I have
not seen that one. I also know of a fairly mathematical treatment of it in:

Error-Correcting Codes, W. Wesley Peterson and E. J. Weldon, Jr., 2nd Ed.
MIT Press, ISBN 0 262 16 039 0

Glen KD5HIO has or has recently seen, a copy of this one.

If anybody else has come across this technique in the texts,let us know!

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] Re: Request for advice

From: Frode Weierud <Frode.Weierud@cern.ch>
Date: Sat, 14 Oct 2000 11:26:28 +0200 (METDST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114956-2000.10.14-04.35.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, 14 Oct 2000, Coombe Down wrote:

> I have to say that I have found technical information on Meggitt coding
> difficult to ocate as well. The best information I have was in an email from
> Peter G3PLX who has experience of Meggitt coding. I believe it is also in
> one of the standard texts (title and authors escape me, but printed in the

The only reference I know about to the Meggitt decoder is his 1961 paper
in the IRE Transactions on Information Theory,

J.E. Meggitt, "Error Correcting Codes and Their Implementation",
IRE Trans. Inf. Theory, IT-7, pp. 232-244, October 1961.

Frode, LA2RL

Frode Weierud Phone : +41 22 7674794
CERN, SL, Fax : +41 22 7679185
CH-1211 Geneva 23, E-mail : Frode.Weierud@cern.ch
Switzerland WWW : http://home.cern.ch/frode/

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

22. [hfsig] Re: R: Re: Request for advice

From: Alberto di Bene <dibene@usa.net>
Date: Sat, 14 Oct 2000 11:45:01 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114957-2000.10.14-04.54.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Nino Porcino wrote:

>
> P.S. Alberto tried to write you twice but your mailserver refuses my emails
> telling me that I am a spammer!! :-((Do you have another emailbox?
>

Nino,
                    uhu, oho..... how can this be possible ?
I don't know the policies of usa.net about spamming... probably your domain
happened to be in a black list for some reasons that escape me.
Anyway you can write me at my QRL email address : adibene@it.ibm.com
This should work.

Thanks and 73
Alberto   I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] Meggitt coding

From: Alberto di Bene <dibene@usa.net>
Date: Sat, 14 Oct 2000 11:52:40 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-114958-2000.10.14-05.01.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

About Meggitt coding, I have found the following info :
http://www.ittc.ukans.edu/~paden/Reference/ECC/cyclic/decoder.html

But don't be too excited. It's just a scant page with some formulas,
with no algorithmic description. If someone is able to extract a
working algorithm from them, please post it here !

73
Alberto   I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

November 2000

Original source file: hfsig.0011
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0011

1. [hfsig] request for info

From: "saratragala" <vu3wjn@yahoo.com>
Date: Thu, 2 Nov 2000 4:39:2
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-117645-2000.11.02-04.49.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear friends,
           As I am new to Amateur Digital Communications, I am in need of
beginner information on HF Digital communications is required from the
exponents in this field.

MY E-MAILS: vu3wjn@usa.net;
            vu3wjn@yahoo.com;
            saratragala@usa.net;
            saratragala@bharatmail.com.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: request for info

From: "Bruno Haineault" <bhaineault@home.com>
Date: Thu, 2 Nov 2000 07:32:06 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-117679-2000.11.02-09.41.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Navigate to TAPR's website and read about this book: "Wireless Digital
Communications, Design and Theory". It's a great book with just the right
mix for beginners and intermediate persons.

http://www.tapr.org

Ciao!

Bruno, KF6QDP/VE2EQ
Oceanside, California

----- Original Message -----
From: "saratragala" <vu3wjn@yahoo.com>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Thursday, November 02, 2000 12:00 AM
Subject: [hfsig] request for info

> Dear friends,
>   As I am new to Amateur Digital Communications, I am in need of
> beginner information on HF Digital communications is required from the
> exponents in this field.
>
> MY E-MAILS: vu3wjn@usa.net;
>   vu3wjn@yahoo.com;
>   saratragala@usa.net;
>   saratragala@bharatmail.com.
>
> ---
> You are currently subscribed to hfsig as: BHAINEAULT@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: request for info

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Fri, 3 Nov 2000 06:36:06 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-117702-2000.11.02-12.22.03--lyris.hfsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Saratragala,

You might also check some of the web sites which describe all the amateur modes. For example

http://www.qsl.net/zl1bpu .

There is also a simple HTML course "Amateur Radio Modes using the Sound Card" that you can download and operate from a floppy disc - ideal for sharing with your friends. This can be downloaded from

http://www.qsl.net/zl1bpu/FUZZY/software/EUREKA.zip ,

or viewed online at

http://members.xoom.com/ZL1BPU/ZL1BPU/EUREKA/home.html

Digital modes using a PC sound card are very simple to set up and very inexpensive, since the software is mosty free and there is no expensive external device required. All you need is a modern PC and a cable you make yourself.

The book "Wireless Digital Communications: Design and Theory", by Tom McDermott N5EG, available from TAPR via their web site is also recommended. ARRL publish a simple guide to digital modes - the "ARRL's HF Digital HAndbook" by Steve Ford WB8IMY, although the theoretical content is minimal.

73,
Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: request for info

From: Joel <ko4qc@mindspring.com>
Date: Sat, 04 Nov 2000 12:02:59 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-118083-2000.11.04-11.12.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

ahhhh....what?

At 04:39 AM 11/2/00, you wrote:
>Dear friends,
>   As I am new to Amateur Digital Communications, I am in need of
>beginner information on HF Digital communications is required from the
>exponents in this field.
>
>MY E-MAILS: vu3wjn@usa.net;
>   vu3wjn@yahoo.com;
>   saratragala@usa.net;
>   saratragala@bharatmail.com.
>
>---
>You are currently subscribed to hfsig as: ko4qc@mindspring.com
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Windoze Soundblaster Library

From: "MCGWIER ROBERT" <rwmcgwier@home.com>
Date: Sun, 26 Nov 2000 13:26:59 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-121597-2000.11.26-12.40.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I need a Freeware Windows 9X SoundBlaster
Library, source preferred, but I don't care so long
as I can read, write buffers and a clear API exists.
I have searched and nothing that really strikes
me as right for my application without too much
effort (learning or reprogramming). I am really
looking for something simple that will work with
100% SoundBlaster compatible cards. My
goodness but Linux is easier than this!

Thanks in advance.
Bob N4HY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: Windoze Soundblaster Library

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Sun, 26 Nov 2000 20:45:26 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-121610-2000.11.26-15.10.45--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Bob,

If you are at all familiar with C++ Builder, you might like to look at
throb25.zip which you can find on:

          http://leden.tref.nl/~nl9222tv/software.htm

I have zipped in the source code. You will find the routines in unit1.cpp,
and note the MS multimedia header.

I am not guaranteeing that I have done it in the best way but I have used
the calls across a number of applications.

73
Lionel
G3PPT
-----Original Message-----
From: MCGWIER ROBERT <rwmcgwier@home.com>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Date: Sunday, November 26, 2000 6:32 PM
Subject: [hfsig] Windoze Soundblaster Library

>I need a Freeware Windows 9X SoundBlaster
>Library, source preferred, but I don't care so long
>as I can read, write buffers and a clear API exists.
>I have searched and nothing that really strikes
>me as right for my application without too much
>effort (learning or reprogramming). I am really
>looking for something simple that will work with
>100% SoundBlaster compatible cards. My
>goodness but Linux is easier than this!
>
>Thanks in advance.
>Bob N4HY
>
>
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] RE: [amsat-bb] Windoze Soundblaster Library

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 27 Nov 2000 10:25:27 +1100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>

Message-ID: <LYR4070-121628-2000.11.26-17.38.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> looking for something simple that will work with
> 100% SoundBlaster compatible cards. My
> goodness but Linux is easier than this!

Just a friendly request, can you try and find something that uses Windows
standard sound I/O routines? Limiting to 100% SB compatibles keeps a lot of
us from using your piece of software.

As for where to get a library from, I'm unable to help with that, I'm not a
programmer myself (to some extent, by choice, but wish I had have spent more
time hacking code as a hobby ;)).

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Windoze Soundblaster Library

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Mon, 27 Nov 2000 14:41:08 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-121719-2000.11.27-07.54.05--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I need a Freeware Windows 9X SoundBlaster
> Library, source preferred, but I don't care so long

You can take a look at my soundmodem code.
It contains an abstraction layer that works under Linux,
Solaris and Win32 with DirectX

http://www.ife.ee.ethz.ch/~sailer/ham/soundmodem/

Tom

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Windoze Soundblaster Library

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 28 Nov 2000 19:02:25 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-121910-2000.11.28-13.15.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

<<
I need a Freeware Windows 9X SoundBlaster
Library, source preferred, but I don't care so long
as I can read, write buffers and a clear API exists.
I have searched and nothing that really strikes
me as right for my application without too much
effort (learning or reprogramming). I am really
looking for something simple that will work with
100% SoundBlaster compatible cards. My
goodness but Linux is easier than this!
>>

I'd advise against the soundblaster route.

Soundblaster is now `Legacy Hardware'.

>From the POV of MS-windows and PC suppliers.

If you need a new PCI one, the only soundblasters
marketed are now the expensive high-end devices.

AC-97 is the current standard which provides one rate,
48kHz, stereo, 16-20 bits, duplex, guaranteed. All other rates
are done by software rate conversion implemented in the
OS driver subsystems. There's also no problem adding
more codecs via PCI, IEEE1394 or USB. Substantial hardware
buffering & DMA scatter-gather is also available to reduce
CPU interrupt rates & I/O overhead. 21st century audio
hardware at last!

Whereas gamers want to hold on to their SB hardware

wavetable midi synthesis, AC-97 beats SB hands down for
raw sample I/O. I'm certainly not about to lament the demise
of SB, and I certainly won't be getting one.

In practice AC-97 defines the codec alone, and DC-97 is the
digital controller that connects it to the bus. MC-97 applies to
modem AFE. Up to 10 in + 10 out audio channels can exist per
codec device on the AC-link; typically codecs for 2+2 (stereo)
or 4+2 (surround) are fitted. Controllers may sport up to 4
AC-links. AC-97 codecs may optionally support variable
sample rates below 48kHz but its probably never used by
drivers.

I have noticed that mobo audio codecs are better for AC-97
than soundcards. On motherboards, the codec is a separate
analogue IC (typically TLV320AIC27 or AD1881) interfacing with
the digits within the main mobo chipset (eg VT82C686A). On
(cheap) soundcards, the codec and the digits on the PCI bus
get integrated into one chip, using a CMOS process unsuited
to analogue, resulting in a very noisy codec.

AC97 requires:
>= 85dB FS A-weighted dynamic range
>= 17.64kHz -3dB frequency response
<= -70dB FS passband THD+N
<= 0.5dB passband ripple
Sample rate precision isn't defined directly, +-0.01% is inferred
for mobo's with an AMR slot for a line modem, or combined
modem/sound cards. This is likely to translate into the standard
spec for volume crystals for all AC97 applications.

The AC-97 is firm and published by Intel at
http://developer.intel.com/ial/scalableplatforms/audio/
The same isn't true for the DC-97 controller. I've not found
any generic spec for this, only product specs. Indeed, the
Win-ME audio drivers don't work properly with VT82C686A
and VIA drivers are required.

I've recently replaced my old laptop (which had no audio
at all) with a new PC which has WinME and AC-97. So I've
skipped the Soundblaster generation entirely. There's no
info ATM about what ham software works on such setups;
and I think the answer sounds like `very little works'. I have
no success with audio in DOS-programs.

The only downside to AC-97 is that Windows interrupt
latency means that 20ms buffers are used. Even this can be
exceeded and an Intel guide recommends preparing extra
buffers of `harmless rubbish' which get sent by a softmodem
if the task doesn't replace them in time! It avoids a retrain or
a dropped line but results in dropped packets. This is only
doable at the driver level, not at DirectSound. Data is passed
around in large chunks, so delays of 500ms through a pair
of speech codecs is typical. A recent article on Linux interrupts
with experimental results indicated it would be no better for
guaranteed interrupt latency. In many modem, speech coding
and filtering applications high delay is unacceptable. It affects
the performance of softmodems (which also use the AC-97
architecture), and ruins internet phone calls. I don't see interrupt
latency is fixable in Windows; although Microsoft have done
something in Win-CE.

Ideally an RTOS is needed to support AC-97 modem & DSP
developments, so that buffering can be much reduced. I'm very
attracted to QNX, which is now free to experimenters, complete
with GCC development environment, web browsers, servers etc
(http://get.qnx.com). I don't see RTlinux supporting AC-97 or any
audio devices from the RTOS level anytime soon. OTOH I don't
see any winmodems, WLAN cards or USB supported by QNX.
Support for my mobo would depend on an update to ALSA
0.59 in QNX. (QNX has ALSA 0.52 audio drivers ported from
Linux.)

The day won't be too far off where rigs can be connected
to PCs via a USB cable for all audio and control functions.
That's where Intel's roadmap is taking us.

Ant

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: Windoze Soundblaster Library

From: "Moe Wheatley" <ae4jy@mindspring.com>
Date: Tue, 28 Nov 2000 17:06:05 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-121925-2000.11.28-16.20.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I'd advise against the soundblaster route.
>
> Soundblaster is now `Legacy Hardware'.
>
> From the POV of MS-windows and PC suppliers.
>
> If you need a new PCI one, the only soundblasters
> marketed are now the expensive high-end devices.

I don't think soundcards are going away anytime soon. Maybe the Soundblaster hardware compatability but not the concept of a soundcard. If one interfaces at the Windows mmsystem or directx level, i don't think it matters a hoot about soundblaster compatable, at least I've never dealt with it. The old DOS interfaces did require the soundblaster hardware. Don't know about Linux.
A new PCI, 16 bit, 48KHz max, full duplex, soundcard can be had for about 15 bucks these days and will work fine with most of the current Windows ham programs. Doubt if implements PCI scatter gather but still beats the old ISA 8/16 bit DMA stuff.

>
> AC-97 is the current standard which provides one rate,
> 48kHz, stereo, 16-20 bits, duplex, guaranteed. All other rates
> are done by software rate conversion implemented in the
> OS driver subsystems. There's also no problem adding
> more codecs via PCI, IEEE1394 or USB. Substantial hardware
> buffering & DMA scatter-gather is also available to reduce
> CPU interrupt rates & I/O overhead. 21st century audio
> hardware at last!
>

I think they recommend using hardware sample rate changes from 8 to 48KHz for mainstream PC applications in the AC'97 ver 2.2 page 14.

> Whereas gamers want to hold on to their SB hardware
> wavetable midi synthesis, AC-97 beats SB hands down for
> raw sample I/O. I'm certainly not about to lament the demise
> of SB, and I certainly won't be getting one.

Still think confusing a brand SoundBlaster with soundcard. Even soundcard is probably misleading since it can and is built into many PC motherboards. The Windows API doesn't care as long as it can talk to the manufacturer supplied driver.

>
> Ideally an RTOS is needed to support AC-97 modem & DSP
> developments, so that buffering can be much reduced. I'm very
> attracted to QNX, which is now free to experimenters, complete
> with GCC development environment, web browsers, servers etc
> (http://get.qnx.com). I don't see RTlinux supporting AC-97 or any
> audio devices from the RTOS level anytime soon. OTOH I don't
> see any winmodems, WLAN cards or USB supported by QNX.
> Support for my mobo would depend on an update to ALSA
> 0.59 in QNX. (QNX has ALSA 0.52 audio drivers ported from
> Linux.)
>
QNX is pretty cool. Microsoft could learn a lot from them on coding efficiency and performance. Didn't realize they are now giving it away.

Unfortunately the user interface software is best done on a GP operating system like Linux or Windoze which will probably never be deterministic enough to do serious realtime DSP I/O and the RT operating systems will never have all the slick GUI interfaces nor the widespread mainstream appeal.

> The day won't be too far off where rigs can be connected

> to PCs via a USB cable for all audio and control functions.
> That's where Intel's roadmap is taking us.

It seems this would be a golden oportunity for someone/TAPR to jump in and develop a common "radio interface" spec using USB. Probably should be done before one of the "Kenwood/Icom/Yaesu's" push some proprietary USB interface on the world and we have the same mess of in-operable rig control between brands.
There's a lot of cheap USB, DSP's, and codec hardware out there now. Would sure beat the kludgy serial port rig control/serial port PTT/soundcard wiring mess that we are using these days.

My vision is a small USB device containing a codec/DSP chip/ and USB interface. The operational dsp code could be downloaded from the app. Maybe a serial port to talk to existing rigs or at least some PTT/up/dn drivers like the old DSP-93. If done right, the software interface could be made very generic and expandable, open source for developers, etc.

moe,ae4jy

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: Windoze Soundblaster Library

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Wed, 29 Nov 2000 15:02:47 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-122045-2000.11.29-08.15.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony N Martin wrote:

> If you need a new PCI one, the only soundblasters
> marketed are now the expensive high-end devices.

Eh? Check out your computer dealer. ES1371 is IMO
marketed as "Soundblaste PCI 128" or similar, and costs
about $20. I don't think that counts as "expensive high-end".
But these cards aren't SB ISA compatible, they contain
an AC97 codec and a digital controller.

> If you need a new PCI one, the only soundblasters
> marketed are now the expensive high-end devices.
> AC-97 is the current standard which provides one rate,
> 48kHz, stereo, 16-20 bits, duplex, guaranteed. All other rates
> are done by software rate conversion implemented in the
> OS driver subsystems. There's also no problem adding

Apart from the Intel ICH, all other AC97 controllers I know
support hardware sample rate conversion.

> and I think the answer sounds like `very little works'. I have
> no success with audio in DOS-programs.

My soundmodem stuff works iff a decent DirectX driver
exists for the digital controller. Unfortunately, many
DX drivers are substandard, esp. when it comes to recording
capabilities.

> a dropped line but results in dropped packets. This is only
> doable at the driver level, not at DirectSound. Data is passed

Why not? The DX API lends itself to present the application
the hardware mixing buffer (at least if you manage to get
access to the primary buffer), so it seems theoretically
doable.

Tom

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

December 2000

Original source file: hfsig.0012
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0012

1. [hfsig] Updated HF Path Simmulator Program

From: "Moe Wheatley" <ae4jy@mindspring.com>
Date: Fri, 1 Dec 2000 20:24:55 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "Roald Otnes" <roaldo@unik.no>, "Michael Keller" <keller@gmx.de>,
"Johan Forrer" <forrerj@peak.org>,
"Alexander Kurpiers" <a.kurpiers@nt.tu-darmstadt.de>,
"Adam Zajac" <azajac@ctm.gdynia.pl>
Message-ID: <LYR4070-122337-2000.12.01-19.37.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Finally got around to finishing up repairs to "PathSim", a Watterson model
HF path simulator program. This will be the imfamous version 1.0 so be
warned. ;>)
The old simulation setup files are not compatable with this new one, sorry.

http://www.qsl.net/ae4jy/pathsim.htm

It now has better Gaussian shaped filters and also a help system.
I've also updated the user manual to include more technical details and also
some verification test data.
Source code and some MathCAD 6.0 files for designing Gaussian shaped FIR
filters is also available.

In the ITU-R F.520-2 ANNEX 3 recommendations(thanks to Adam Zajac) they also
recommend being able to specify the fading depth from 2 to 40dB, simulating
a selective fade width from .1 to 1.2KHz., a selective fade move rate .5 to
2KHz/sec, and frequency drifts 0 to 7 Hz. ANNEX 2 suggests a flat fading
frequency spread of .1 to 50Hz. They also recommend S/N calculations based
on 2.7KHz rather than my 3KHz. Doh!

Any thoughts on these parameters as to importance and how one would
implement?

73's
Moe, AE4JY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Call for Papers - SWOH Digital Symposium

From: Hank Greeb <hgreeb@one.net>
Date: Sat, 02 Dec 2000 12:18:09 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-122394-2000.12.02-11.25.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Fifteenth Annual SW Ohio Digital Symposium will be held at Miami University,
Middletown Campus, Middletown, OH, on January 13, 2001, from 9 a.m. to about 3
p.m.

This is a solicitation for papers to be presented at the symposium. We're
particularly looking for someone in the area who is experimenting the PSK-31,
THROB, and other newer modes of digital communications.

Please send your proposed topic to Hank Greeb, N8XX, n8xx@arrl.net

along with a short abstract (nothing particularly formal required at this
point), and a daytime or evening telephone number in case someone needs to
contact you personally about the proposed presentation. For those needing such
facilities, we'll have an overhead LCD computer projector, with 800 by 600
resolution - so come prepared! If you want to use this facility, bring your own
computer.

We're particularly looking for "live" demos - actual on-the-air type operation
is best, computer recordings, etc., will also work. We plan to have demos of
packet, AMSAT, RTTY, and as many newer modes of digital communications as we can
muster.

The SWOH Digital symposium is the a long standing gathering, held since 1987 at
Miami University. This year it is being co-sponsored by the Center for
Chemistry Education. It is run by a group of volunteers, and relies on
donations at the door rather than any fixed entrance fee. Come on out!

Tnx es 73 de n8xx Hg

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] INFO REQUIRED (pls handcarry this message to Ms. Johan Forrer desk due of connection problem)

From: "PAUL" <RV9J@VIRGILIO.IT>
Date: Tue, 5 Dec 2000 13:24:19
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-123002-2000.12.05-13.37.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear Ms. Johan Forrer,
Following my registration into special group HFSIG,
I have noted that you're looking for different people into the group.
I'm very interested in knowing if an eventual cooperation will
meet yr. needs.
Pls take note that I had been registered also in the SS group.
Pls keep me informed

Best Regards

Paolo Sanvito

RV9J@virgilio.it

I.E.E.E. P. COM. Certificate

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Improve your stepfamily life

From: hj4hj6@yahoo.com
Date: 21 Dec 00 1:34:32 PM
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-125766-2000.12.21-19.04.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does your stepfamily life resemble a soap opera more than it does the Brady
Bunch?

The Stepfamily Association of America invites you to participate in THE
NATIONAL CONFERENCE FOR STEPFAMILIES, Feb. 23-24, 2001, at the New Orleans
Marriott Hotel.

This is an opportunity, designed by knowledgeable professionals, in
stepfamilies themselves, to help you:
* Make your remarriage a success
* Create bonds with your stepchildren
* Help your children adjust emotionally
* Manage money matters unique to your family
* Get more help from legal, financial, psychological advisors
* Overcome stepfather and stepmother stereotypes
* Elicit cooperation from your children's schools
* Bring more harmony into family life

Complete conference details at http://www.edupr.com
REGISTER ONLINE!

Attend, and also enjoy Mardi Gras week in New Orleans!

Special discounts for couples, students, groups.

HOTEL IS BOOKING UP FAST. ACT NOW BEFORE ROOM BLOCK AND
AIRLINE SEATS FILL Special rates for conference attendees. Visit
http://www.edupr.com for discounts. Childcare available through a bonded
local service.

Up to 17 professional development credits available if you are an

educator, clinician, financial planner, social worker.

Questions? Email stepfamilyconf@mail.com

If you would like to be removed, please email us back with the word "Remove" in the subject line. We apologize for any inconvenience.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: Improve your stepfamily life

From: ko4qc@mindspring.com
Date: Thu, 21 Dec 2000 23:32:58 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-125797-2000.12.21-22.44.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

While 'step-families' are a fact of life for many of us,I think you should
take this to the appropriate forum.I,personally,didnt sub to this list to
receive un-solicited advise concerning this subject.

BTW..."The Brady Bunch" was FICTIONAL.....life isnt.

>Does your stepfamily life resemble a soap opera more than it does the Brady
>Bunch?
>
>The Stepfamily Association of America invites you to participate in THE
>NATIONAL CONFERENCE FOR STEPFAMILIES, Feb. 23-24, 2001, at the New Orleans
>Marriott Hotel.
>
>This is an opportunity, designed by knowledgeable professionals, in
>stepfamilies themselves, to help you:
>* Make your remarriage a success
>* Create bonds with your stepchildren
>* Help your children adjust emotionally
>* Manage money matters unique to your family
>* Get more help from legal, financial, psychological advisors
>* Overcome stepfather and stepmother stereotypes
>* Elicit cooperation from your children's schools
>* Bring more harmony into family life
>
>Complete conference details at http://www.edupr.com
>REGISTER ONLINE!
>
>Attend, and also enjoy Mardi Gras week in New Orleans!
>
>Special discounts for couples, students, groups.
>
>HOTEL IS BOOKING UP FAST. ACT NOW BEFORE ROOM BLOCK AND
>AIRLINE SEATS FILL Special rates for conference attendees. Visit
>http://www.edupr.com for discounts. Childcare available through a bonded
>local service.
>
>Up to 17 professional development credits available if you are an
>educator, clinician, financial planner, social worker.
>
>Questions? Email stepfamilyconf@mail.com
>
>If you would like to be removed, please email us back with the word
"Remove" in the subject line. We apologize for any inconvenience.
>
>
>---
>You are currently subscribed to hfsig as: ko4qc@mindspring.com
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] GREAT OPPORTUNITY. MAKE ALOT OF MONEY AT HOME, PART-TIME.

From: friends@enterprises521.com
Date: Tue, 26 Dec 00 20:15:04 EST
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-126827-2000.12.28-19.26.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear Friend,

You can earn $50,000 or more in next the 90 days sending e-mail,
seem impossible? Read on for details (no, there is no 'catch')...

Here's an opportunity that I genuinely believe satisfies the criteria we
all seek in a Good Business Opportunity.

I can confirm from my research this is an ethical opportunity that does
indeed provide significant returns. There are plenty of people doing this
in the UK, States and Canada; genuine people who are willing to assist you.

I send this to you as I received it.

THIS IS A LEGITIMATE, LEGAL, MONEY MAKING OPPORTUNITY.

But before you make your decision as to whether or not you participate in this program, please answer
one question...

"DO YOU WANT TO MAKE A CHANGE IN YOUR LIFE?"

If the answer is yes, please look at the following facts about this program:

---

1. YOU WOULD BE SELLING A PRODUCT WHICH DOES NOT COST ANYTHING TO PRODUCE!

2. YOU WOULD BE SELLING A PRODUCT WHICH DOES NOT COST ANYTHING TO SHIP!

3. AND IT IS A PRODUCT WHICH DOES NOT COST YOU ANYTHING TO ADVERTISE!

4. YOU ARE UTILIZING THE POWER OF THE INTERNET AND THE POWER OF MULTI-LEVEL MARKETING TO DISTRIBUTE YOUR
 PRODUCT ALL OVER THE WORLD!

5. YOUR ONLY EXPENSE OTHER THAN YOUR INITIAL $20 INVESTMENT IS YOUR TIME!

6. VIRTUALLY ALL OF THE INCOME YOU GENERATE FROM THIS PROGRAM IS PURE PROFIT!

7. THIS PROGRAM MAY CHANGE YOUR LIFE FOREVER.

*** Print This Now For Future Reference ***

The following income opportunity is one you may be interested in
taking a look at. It can be started with VERY LITTLE investment
and the income return is TREMENDOUS!!!

If you would like to make at least $50,000 in less than 90 days!
Please read the enclosed program...THEN READ IT AGAIN!!!

MULTI-LEVEL MARKETING (MLM) has finally gained respectability. It is being
taught in the Harvard Business School, and both Stanford Research and the
Wall Street Journal have stated that between 50% and 65% of all goods and
services will be sold through multi-level methods by the mid to late 1990's.
This is a Multi-Billion Dollar industry and of the 500,000 millionaires in
the U.S., 20% (100,000) made their fortune in the last several years in
MLM. Moreover, statistics show 45 people become millionaires everyday
through Multi-Level Marketing.

You may have heard this story before, but over the summer Donald Trump (A
MULTI-BILLIONAIRE, ONE OF THE WEALTHIEST MEN IN THE WORLD) made an

appearance on the David Letterman show. Dave asked him what he would do if he lost everything and had to start over from scratch. Without hesitating, Trump said he would find a good network marketing company and get to work. The audience started to hoot and boo him. He looked out at the audience and dead-panned his response "That's why I'm sitting up here and you are all sitting out there!"

With network marketing you have two sources of income. Direct commissions from sales you make yourself and commissions from sales made by people you introduce to the business.

Residual income is the secret of the wealthy. It means investing time or money once and getting paid again and again and again. In network marketing, it also means getting paid for the work of others.

The enclosed information is something I almost let slip through my fingers. Fortunately, sometime later I re-read everything and gave some thought and study to it.

A NOTE FROM THE ORIGINATOR:

My name is Johnathon Rourke. Two years ago, the corporation I worked at for the past twelve years down-sized and my position was eliminated. After unproductive job interviews, I decided to open my own business. Over the past year, I incurred many unforeseen financial problems. I owed my family, friends and creditors over $35,000. The economy was taking a toll on my business and I just couldn't seem to make ends meet. I had to refinance and borrow against my home to support my family and struggling business. AT THAT MOMENT something significant happened in my life and I am writing to share the experience in the hope that this will change your life FOREVER FINANCIALLY!!!

In mid December, I received this program via e-mail. Six months prior to receiving this program I had been sending away for information on various business opportunities. All of the programs I received, in my opinion, were not cost effective. They were either too difficult for me to comprehend or the initial investment was too much for me to risk to see if they would work or not. One claimed that I would make a million dollars in one year...it didn't tell me I'd have to write a book to make it!

But like I was saying, in December of 1997 I received this program. I didn't send for it, or ask for it, they just got my name off a mailing list. THANK GOODNESS FOR THAT!!! After reading it several times, to make sure I was reading it correctly, I couldn't believe my eyes. Here was a MONEY MAKING PHENOMENON. I could invest as much as I wanted to start, without putting me further into debt. After I got a pencil and paper and figured it out, I would at least get my money back. But like most of you I was still a little skeptical and a little worried about the legal aspects of it all.

After determining the program was LEGAL and NOT A CHAIN LETTER, I decided "WHY NOT?"

Initially I sent out 100,000 e-mails. It cost me about $15 for my time on-line. The great thing about e-mail is that I don't need any money for printing to send out the program, and because all of my orders are fulfilled via e-mail, the only expense is my time. I am telling you like it is, I hope it doesn't turn you off, but I promised myself that I would not "rip-off" anyone, no matter how much money it cost me.

In less than one week, I was starting to receive orders for REPORT #1. By January 13, I had received 26 orders for REPORT #1. Your goal is to "RECEIVE at least 20 ORDERS FOR REPORT #1 WITHIN 2 WEEKS. IF YOU DON'T, SEND OUT MORE PROGRAMS UNTIL YOU DO!" My first step in making $55,000 in 90 days was done.

By January 30, I had received 196 orders for REPORT #2. Your goal is to "RECEIVE AT LEAST 100+ ORDERS FOR REPORT #2 WITHIN 2 WEEKS. IF NOT, SEND OUT MORE PROGRAMS UNTIL YOU DO. ONCE YOU HAVE 100 ORDERS, THE REST IS EASY, RELAX, YOU WILL MAKE YOUR $55,000 GOAL." Well, I had 196 orders for REPORT #2, 96 more than I needed. So I sat back and relaxed. By March 1, of my e-mailing of 100,000, I received $58,000 with more coming in every day.

I paid off ALL my debts and bought a much needed new car. Please take time to read the attached program, IT WILL CHANGE YOUR LIFE FOREVER!!! Remember, it won't work if you don't try it. This program does work, but you must follow it EXACTLY! Especially the rules of not trying to place your name in a different place. It won't work, you'll lose out on a lot of money! In order for this program to work, you must meet your goal of 20+ orders for REPORT #1, and 100+ orders for REPORT #2 and you will make $55,000 or more

in 90 days. I AM LIVING PROOF THAT IT WORKS!!!

If you choose not to participate in this program, I am sorry. It really is
a great opportunity with little cost or risk to you. If you choose to
participate, follow the program and you will be on your way to financial
security.

If you are a fellow business owner and are in financial trouble like I was,
or you want to start your own business, consider this a sign. I DID!

P.S. Do you have any idea what 11,700 $5 bills ($58,000) look like piled up
on a kitchen table?

Johnathon Rourke

With "NO RISK" and "JUST A LITTLE BIT OF EFFORT", you can make more money in the next few months than you have ever imagined.

HERE'S HOW THIS AMAZING PROGRAM WILL MAKE YOU THOUSANDS OF DOLLAR$

INSTRUCTIONS:

This method of raising capital REALLY WORKS 100% EVERY TIME. I am sure that
you could use up to $50,000 or more in the next 90 days. Before you say
"BULL... ", please read this program carefully. This is not a chain letter,
but a perfectly legal money making opportunity. Basically, this is what you
do: As with all multi-level businesses, we build our business by recruiting
new partners and selling our products. Because of the global nature of the
internet, you will be able to recruit new multi-level business partners from
all over the world, and we offer a product for EVERY dollar sent. YOUR
ORDERS COME BY MAIL AND ARE FILLED BY E-MAIL, so you are not involved in
personal selling. You do it privately in your own home, store or office.
This is the GREATEST Multi-Level Mail Order Marketing anywhere:

This is what you MUST do:

1. Order all 4 reports shown on the list below (you can't sell
them if you don't order them).

These 4 reports show you how to actually do this online business!

* For each report, send $5.00 CASH, the NAME & NUMBER
OF THE REPORT YOU ARE ORDERING, YOUR E-MAIL ADDRESS, and
YOUR NAME & RETURN ADDRESS (in case of a problem) to the person
whose name appears on the list next to the report.
AND MAKE SURE YOUR RETURN ADDRESS IS ON YOUR ENVELOPE
IN CASE OF ANY MAIL PROBLEMS!

* When you place your order, make sure you order each of
the four reports. You will need all four reports so
that you can save them on your computer and resell them.

* Within a few days you will receive, via e-mail, each of
the four reports. Save them on your computer so they
will be accessible for you to send to the 1,000's of
people who will order them from you.

2. IMPORTANT-- DO NOT alter the names of the people who are
listed next to each report, or their sequence on the list,
in any way other than is instructed below in steps "a"
through "f" or you will lose out on the majority of your
profits. Once you understand the way this works, you'll
also see how it doesn't work if you change it. Remember,
this method has been tested, and if you alter it, it will
not work.

a. Look below for the listing of available reports.

b. After you've ordered the four reports, take this
advertisement and remove the name and address under
REPORT #4. This person has made it through the cycle and
is no doubt counting their $50,000.

c. Move the name and address under REPORT #3 down to REPORT #4.

d. Move the name and address under REPORT #2 down to REPORT #3.

e. Move the name and address under REPORT #1 down to REPORT #2.

f. Insert your name/address in the REPORT #1 position.

Please make sure you copy every name and address
ACCURATELY!
3. Take this entire letter, including the modified list of
names, and save it to your computer. Make NO changes to the
instruction portion of this letter.

Your cost to participate in this is practically nothing (surely you can
afford $20). You obviously already have an Internet connection and e-mail
is FREE!

To assist you with marketing your business on the internet, the 4 reports
you purchase will provide you with invaluable marketing information which
includes how to send bulk e-mails, where to find thousands of free
classified ads and much, much more.

There are two primary methods of building your downline:

METHOD #1: SENDING BULK E-MAIL

Let's say that you decide to start small, just to see how it goes, and we'll
assume you and all those involved send out only 2,000 programs each. Let's
also assume that the mailing receives a 0.5% response. Using a good list the
response could be much better. Also, many people will send out hundreds of
thousands of programs instead of 2,000. But continuing with this example,
you send out only 2,000 programs. With a 0.5% response, that is only 10
orders for REPORT #1. Those 10 people respond by sending out 2,000 programs
each for a total of 20,000. Out of those 0.5%, 100 people respond and order
REPORT #2. Those 100 mail out 2,000 programs each for a total of 200,000.
The 0.5% response to that is 1000 orders for REPORT #3. Those 1000 send out
2,000 programs each for a 2,000,000 total. The 0.5% response to that is
10,000 orders for REPORT #4.
That's 11,110 $5 bills for you.
CASH!!! Your total income in this example is $50 + $500 + $5,000 + $50,000
for a total of $55,550!!!

REMEMBER, THIS IS ASSUMING 1,990 OUT OF THE 2,000 PEOPLE YOU MAIL TO
WILL DO ABSOLUTELY NOTHING AND TRASH THIS PROGRAM! DARE TO THINK FOR A
MOMENT WHAT WOULD HAPPEN IF EVERYONE,
OR EVEN HALF SENT OUT 100,000 PROGRAMS INSTEAD OF 2,000. Believe me, many
people
will do just that, and more!

REPORT #2 will show you the best methods for bulk e-mailing, tell
you where to obtain free bulk e-mail software and where to obtain e-mail
lists and show you how to send out 1,000,000 e-mails for free.

METHOD #2 - PLACING FREE ADS ON THE INTERNET

1. Advertising on the 'Net is very, very inexpensive, and there are
HUNDREDS of FREE places to advertise. Let's say you decide to start small
just to see how well it works. Assume your goal is to get ONLY 10 people to
participate on your first level. (Placing a lot of FREE ads on the Internet
will EASILY get a larger response.) Also assume that everyone else in YOUR
ORGANIZATION gets ONLY 6 downline members. Follow this example to achieve
the STAGGERING results below.

1st level--your 10 members with $5 ($5 x 10).................$50
2nd level--10 members from those 10 ($5 x 100)..............$500
3rd level--10 members from those 100 ($5 x 1000)......... $5,000
4th level--10 members from those 1000 ($5 x 10,000)......$50,000

THIS TOTALS --$55,550

Remember friends, this assumes that the people who participate
only recruit 10 people each. Think for a moment what would happen if they
got 20 people to participate! Many people will get 100's of participants!
THINK ABOUT IT!

For every $5.00 you receive, all you must do is e-mail them the report
they ordered. THAT'S IT! ALWAYS PROVIDE SAME-DAY SERVICE ON ALL ORDERS!

This will guarantee that the e-mail THEY send out, with YOUR name and address on it, will be prompt because they can't advertise until they receive the report!

AVAILABLE REPORTS

*** Order Each REPORT by NUMBER and NAME ***

Notes:

- ALWAYS SEND $5 CASH (U.S. CURRENCY) FOR EACH REPORT. CHEQUES NOT ACCEPTED.
- ALWAYS SEND YOUR ORDER VIA FIRST CLASS MAIL
- Make sure the cash is concealed by wrapping it in at least two sheets of paper
- On one of those sheets of paper, include: (a) the number & name of the report you are ordering, (b) your e-mail address, and (c) your name & postal address.

PLACE YOUR ORDER FOR THESE REPORTS NOW:
_____

REPORT #1 "The Insider's Guide to Advertising for Free on the Internet"

ORDER REPORT #1 FROM:

Yuko Imports
2187 East 8th Avenue
Vancouver, British Columbia
Canada V5N1V4
_____

REPORT #2 "The Insider's Guide to Sending Bulk E-mail on the Internet"

ORDER REPORT #2 FROM:

IPS Network
355-2252 Kingsway Ave.
Vancouver B.C. Canada
V5N5X6
_____

REPORT #3 "The Secrets to Multilevel Marketing on the Internet"

ORDER REPORT #3 FROM:

Sarah Harris
PO Box 4271
Verwood
BH31 6FW
UK
_____

REPORT #4 "How to become a Millionaire utilizing the Power of Multilevel Marketing and the Internet"

ORDER REPORT #4 FROM:

Anthony Thomas
2 Hazelwood Drive
Dorset
BH31 6YQ
UK

There are currently more than 175,000,000 people online worldwide!

******* TIPS FOR SUCCESS *******

* TREAT THIS AS YOUR BUSINESS! Be prompt, professional,

and follow the directions accurately.

* Send for the four reports IMMEDIATELY so you will have them
when the orders start coming in because:

When you receive a $5 order, you MUST send out the
requested product/report.

* ALWAYS PROVIDE SAME-DAY SERVICE ON THE ORDERS YOU RECEIVE.

* Be patient and persistent with this program. If you follow
the instructions exactly, your results WILL BE SUCCESSFUL!

* ABOVE ALL, HAVE FAITH IN YOURSELF AND KNOW YOU WILL SUCCEED!

******* YOUR SUCCESS GUIDELINES *******

Follow these guidelines to guarantee your success:

If you don't receive 20 orders for REPORT #1 within two
weeks, continue advertising or sending e-mails until you do. Then,
a couple of weeks later you should receive at least 100 orders for
REPORT#2. If you don't, continue advertising or sending e-mails
until you do.

Once you have received 100-150 or more orders for REPORT #2, YOU
CAN RELAX, because the system is already working for you, and
the cash will continue to roll in!

THIS IS IMPORTANT TO REMEMBER:

Every time your name is moved down on the list, you are placed
in front of a DIFFERENT report. You can KEEP TRACK of your
PROGRESS by watching which report people are ordering from
you. If you want to generate more income, send another batch of
e-mails or continue placing ads and start the whole process again!
There is no limit to the income you will generate from this business!

ORDER YOUR REPORTS TODAY AND GET STARTED ON YOUR ROAD TO FINANCIAL FREEDOM!

NOW IS THE TIME FOR YOUR TURN.

DECISIVE ACTION YIELDS POWERFUL RESULTS.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

January 2001

Original source file: hfsig.0101
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0101

1. [hfsig] Meteor Scatter Ramblings

From: mwheatle@trsystems.com
Date: Thu, 4 Jan 2001 14:42:38 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: roaldo@unik.no
Message-ID: <LYR4070-128212-2001.01.04-13.58.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Since this list is kind of slow and this subject is sort of HF, at least it
deals with reflected radio waves, I will jump in.

After looking at the various amateur meteor scatter communications methods
currently in use, I was wondering if it could be improved upon using a few
more advanced signal processing techniques. HSCW(high speed cw) seems to be
the most popular method and is no more than a PC soundcard version of a tape
recorder with slowed down playback mode. This allows the use of the more
frequent but shorter length events(hundred millisecond or so) to pass
information.

There is another method that uses 2m FM AFSK 1200 baud AX.25 packet with
short blocks. This mode works but requires hefty power and longer meteor
events.

My initial reaction after playing around with the programs is that there is
significant room for improvement. I have also been told that no way could a
digital mode ever compete with CW and the human brain in this application.
So like a kid being told not to stick his finger in the light socket, I
decided to stick my finger in the light socket.

Before I'm fried to a crisp, is there some fundamental reason that a mode
could not be developed that would do at least as well as the HSCW method?
The primary physical limitations are:
1. The length of the burst. A data block(or maybe a partial one depending
on the upper protocol) needs fit in as little as 50 to 100 milliseconds.
2. The reflected power is very small so this is a very weak signal mode.
3. The bursts are random and relatively infrequent depending on time of day
and year.
4. The bandwidth needs to be around 3KHz to be able to use standard voice
channel SSB radio equipment.
5. Interference may be an issue if many stations are reflecting off the same
trail.
6. The DSP hardware is likely to be limited to the PC soundcard combo.

Roald Otnes,LA5NJA has done some research in this area and provided me with
some initial feedback based on his thesis. His inputs as a starting point:
A. Use ~1 to 2 KBS BPSK or QPSK with some form of FEC (some commercial
systems use)
B. The underdense ping paths are primarily a decaying amplitude AWGN signal
with some possible Doppler (50-75Hz) shift.
C. The meteor event process is a Poisson process(time between pings is
exponentially distributed).
D. The peak amplitude (dB) is normally distributed.
E. The decay time constant is lognormally distributed.

Roald's thesis on MS can be found here if you can read Norwegian! (abstract
is in English)
http://home.c2i.net/rwo/roald/engindex.html

My thoughts are that synchronization would be the major obstacle both in
detecting the ping as well as decoding the signal since there's not much
time to integrate the signal. The good news is there is plenty of time
between pings to process, so even brute force searches for sync could be
used if one could detect just the occurrence of the event with good
sensitivity.

Oh, I did kludge together a meteor path simulator from my HF path simulator
just to be able to play around with various schemes and get some feedback
from the MS guys as to its accuracy. The shape seems about right but the
random processes are not yet correct.

http://www.qsl.net/ae4jy/

Just wanted to stir up some comments from the "brain trust" that hangs out
here.

If this is out of line with HF SIG just say so and I'll search for a
different forum.

Moe, AE4JY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: Meteor Scatter Ramblings

From: "Jack Taylor" <n7oo@theriver.com>
Date: Thu, 4 Jan 2001 14:12:39 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: <roaldo@unik.no>
Message-ID: <LYR4070-128219-2001.01.04-15.26.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

No Brain trust on this end, but quite a bit of work has been done by
commercial/govt interests. Last I heard, this effort was focused on 4800
bps packets running full-duplex in the 40 MHz range. Claims were 200 - 300
WPM average thruputs being achieved with 50 - 200 watt powers into 4 or 5 el
yagis.   The 40 MHz range is optimum for M/S commo and thus 6M would be
preferable over 2M.

73 de Jack

-----Original Message-----
From: mwheatle@trsystems.com <mwheatle@trsystems.com>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Cc: roaldo@unik.no <roaldo@unik.no>
Date: Thursday, January 04, 2001 12:45 PM
Subject: [hfsig] Meteor Scatter Ramblings

>Since this list is kind of slow and this subject is sort of HF, at least it
>deals with reflected radio waves, I will jump in.
>
>After looking at the various amateur meteor scatter communications methods
>currently in use, I was wondering if it could be improved upon using a few
>more advanced signal processing techniques. HSCW(high speed cw) seems to
be
>the most popular method and is no more than a PC soundcard version of a
tape
>recorder with slowed down playback mode. This allows the use of the more
>frequent but shorter length events(hundred millisecond or so) to pass
>information.
>
>There is another method that uses 2m FM AFSK 1200 baud AX.25 packet with
>short blocks. This mode works but requires hefty power and longer meteor
>events.
>
>My initial reaction after playing around with the programs is that there is
>significant room for improvement. I have also been told that no way could
a
>digital mode ever compete with CW and the human brain in this application.
>So like a kid being told not to stick his finger in the light socket, I
>decided to stick my finger in the light socket.
>
>Before I'm fried to a crisp, is there some fundamental reason that a mode
>could not be developed that would do at least as well as the HSCW method?
>The primary physical limitations are:
>1. The length of the burst. A data block(or maybe a partial one depending
>on the upper protocol) needs fit in as little as 50 to 100 milliseconds.
>2. The reflected power is very small so this is a very weak signal mode.
>3. The bursts are random and relatively infrequent depending on time of day
>and year.
>4. The bandwidth needs to be around 3KHz to be able to use standard voice
>channel SSB radio equipment.
>5. Interference may be an issue if many stations are reflecting off the
same
>trail.
>6. The DSP hardware is likely to be limited to the PC soundcard combo.

>
>Roald Otnes,LA5NJA has done some research in this area and provided me with
>some initial feedback based on his thesis. His inputs as a starting point:
>A. Use ~1 to 2 KBS BPSK or QPSK with some form of FEC (some commercial
>systems use)
>B. The underdense ping paths are primarily a decaying amplitude AWGN signal
>with some possible Doppler (50-75Hz) shift.
>C. The meteor event process is a Poisson process(time between pings is
>exponentially distributed).
>D. The peak amplitude (dB) is normally distributed.
>E. The decay time constant is lognormally distributed.
>
>Roald's thesis on MS can be found here if you can read Norwegian! (abstract
>is in English)
>http://home.c2i.net/rwo/roald/engindex.html
>
>
>My thoughts are that synchronization would be the major obstacle both in
>detecting the ping as well as decoding the signal since there's not much
>time to integrate the signal. The good news is there is plenty of time
>between pings to process, so even brute force searches for sync could be
>used if one could detect just the occurrence of the event with good
>sensitivity.
>
>Oh, I did kludge together a meteor path simulator from my HF path simulator
>just to be able to play around with various schemes and get some feedback
>from the MS guys as to its accuracy. The shape seems about right but the
>random processes are not yet correct.
>
>http://www.qsl.net/ae4jy/
>
>
>Just wanted to stir up some comments from the "brain trust" that hangs out
>here.
>
>If this is out of line with HF SIG just say so and I'll search for a
>different forum.
>
>Moe, AE4JY
>
>
>
>
>---
>You are currently subscribed to hfsig as: n7oo@theriver.com
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] SW Ohio Digital Symposium, Jan 13

From: Hank Greeb <hgreeb@one.net>
Date: Fri, 5 Jan 2001 01:44:27 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-128288-2001.01.05-00.57.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Reminder - the Fifteenth Annual SWOH Digital Symposium will be held

09:00 -16:00 EST
January 13, 2001

at the Middletown Campus, Miami University, Middletown, OH

Details at:

http://w3.one.net/~rkuns/swohdigi.html

For more info contact

Hank Greeb n8xx@arrl.net

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: Meteor Scatter Ramblings

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Fri, 5 Jan 2001 20:45:17 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-128290-2001.01.05-02.49.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Moe,

Interesting that you should ask about Meteor Scatter, as I am this evening writing my monthly column, and covering the subject.

You mentioned various parameters that are necessary for scatter. Let me analyse some of these in a simple way.

First (your point 1), you need something that works in fragmentary blocks, and gets the data through quickly. A conventional block mode will always have lost partial blocks at the beginning and end of the "ping", limiting the useful data transferred, since there is of course no synchronisation of the blocks to the pings.

The transmissions need to occur over a reasonable length of time and contain limited data repeated over and over in order that some of it makes the path. In addition, the order in which the data is received should either not matter, or be taken into account.

One of the special things about Morse (and very few other digital modes) is that a transmission as short as one character is completely readable. This does not apply to any of the block or asynchronous modes. Synchronous modes (even using GPS) are little better because the path delay is unpredicatable from ping to ping.

Now, there is a group of radio modes that already meets these points, and most of your other points as well. They are receivable in bursts as short as one character. I am talking about the Hellschreiber family, and in particular Feld-Hell and PSK-Hell. There is a group of Australians having great success with 3x normal speed Feld-Hell for 2m meteor scatter over a 1500 km range. They report considerable doppler, but this apparently does not affect copy. These guys are using 5 minute timed transmissions, sending a simple repeated message, and have been able to hold slow QSOs over an hour or so. The software (IZ8BLY Hellschreiber V2.9) conveniently shows about 5 minutes of pings, about one over. Each ping is long enough to transfer a callsign or a signal report. (See attached example with two pings from VK3AXH).

I have suggested that they try PSK-Hell, which is very sensitive, but as yet there is no 3x speed PSK-Hell software. We have found PSK-Hell to be insensitive to polar flutter, and not too bad with drift, so the effect of doppler may not be a problem at 300 - 400 baud.

My suggestion isn't very high tech, but it does show that there are ways around the unpredictable nature of meteor pings. I'd like to see more work done on so-called "Fuzzy" modes in this field.

73,

Murray ZL1BPU
[Attachment: VK3AXH 29 Dec00 (2).jpg; image/jpeg; 13,629 bytes]

5. [hfsig] RE: Meteor Scatter Ramblings

From: mwheatle@trsystems.com
Date: Fri, 5 Jan 2001 13:31:51 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-128327-2001.01.05-12.47.04--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Murray,

> First (your point 1), you need something that works in
> fragmentary blocks,
> and gets the data through quickly. A conventional block mode
> will always
> have lost partial blocks at the beginning and end of the
> "ping", limiting
> the useful data transferred, since there is of course no

> synchronisation of
> the blocks to the pings.
>
I would invision transmitting continuously a sequence of data blocks each separated by some unique block identifier sync pattern. Each block would be roughly the length of the desired minimum length ping. In this way you would always be sure to always get at least one block sync pattern and part of the block data before and after the block sync. The upper layer code would piece together the blocks until the entire message was received. Perhaps with clever choice of block sync codes, they could be used to separate as well as identify the block.

> The transmissions need to occur over a reasonable length of
> time and contain
> limited data repeated over and over in order that some of it
> makes the path.
> In addition, the order in which the data is received should either not
> matter, or be taken into account.
>
> One of the special things about Morse (and very few other
> digital modes) is
> that a transmission as short as one character is completely
> readable. This
> does not apply to any of the block or asynchronous modes.
> Synchronous modes
> (even using GPS) are little better because the path delay is
> unpredicatable
> from ping to ping.

But is it really useful to get one or two characters at random from a message? The order of the characters contains the actual message. I wonder how succesfull most MS contacts would be if they were completely random text messages and every character had to be received in the correct order. The name, call, time, and location of the sender is usually already known by a pre-arranged schedule via the internet or HF. To me the actual message information was transferred in the schedule not via meteor scatter. The actual MS contact just confirms that the other guy really was on the air. Catch a few letters of his call and it's confirmed.

>
> Now, there is a group of radio modes that already meets these
> points, and
> most of your other points as well. They are receivable in
> bursts as short as
> one character. I am talking about the Hellschreiber family, and in
> particular Feld-Hell and PSK-Hell. There is a group of
> Australians having
> great success with 3x normal speed Feld-Hell for 2m meteor
> scatter over a
> 1500 km range. They report considerable doppler, but this
> apparently does
> not affect copy. These guys are using 5 minute timed
> transmissions, sending
> a simple repeated message, and have been able to hold slow
> QSOs over an hour
> or so. The software (IZ8BLY Hellschreiber V2.9) conveniently
> shows about 5
> minutes of pings, about one over. Each ping is long enough to
> transfer a
> callsign or a signal report. (See attached example with two pings from
> VK3AXH).
>
> I have suggested that they try PSK-Hell, which is very
> sensitive, but as yet
> there is no 3x speed PSK-Hell software. We have found PSK-Hell to be
> insensitive to polar flutter, and not too bad with drift, so
> the effect of
> doppler may not be a problem at 300 - 400 baud.

The "fuzzy" modes are interesting and are similar to CW in that the ear/brain or eye/brain performs the final error correction. For MS it would seem less efficient since it takes a lot of bits to send a single 7x7 character. The redundancy is what is used for the eye and brain to perform error correction. Would be curious to know how long the example pings were that you attached. My impression is that most pings are in the 100mS or less catagory.

My best guess at this point is that about 100 bits could be fit into a 50-100mS ping given the audio bandwidth constraints. If say a short 6 bit

character set is used, or maybe Huffman coding if there is enough gain to be had in such short text messages, then perhaps 10 to 15 characters could be sent per block. Not sure what ECC could or should be used at this point so this number could drop.

Another issue is whether an automated MS mode even makes sense for ham use. It either has to be useful(the low data rate probably makes it not so useful) or it has to be fun(what fun is there in waiting for your computer to decode a message). Maybe if one were to make the mode upper level compatible with AX.25 APRS, then it could leverage the existing applications and user software. It might fill some need for over the horizon VHF links.

My first task is to fully characterize HSCW and find out it's S/N characteristics. That can then be used as the baseline for determining the best modulation rate and scheme to use.

73's moe

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] RE: Meteor Scatter Ramblings

From: Kjell Jarl <K-Jarl@algonet.se>
Date: Fri, 05 Jan 2001 21:30:41 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-128331-2001.01.05-14.39.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi!

> But is it really useful to get one or two characters at random from a

Yes, down to one letter is some times useful (the Roger in a report for example). Often a complete letter with surrounding broken letters can make you put together who is calling who and saying what. The problem with short reflections is it takes so many for you to put the message together.

> message? The order of the characters contains the actual message. I wonder
> how succesfull most MS contacts would be if they were completely random text
> messages and every character had to be received in the correct order. The
> name, call, time, and location of the sender is usually already known by a
> pre-arranged schedule via the internet or HF. To me the actual message
> information was transferred in the schedule not via meteor scatter. The
> actual MS contact just confirms that the other guy really was on the air.
> Catch a few letters of his call and it's confirmed.

Many many thousands of random contacts on 144 MHz CW meteor scatter just prove that the above is not correct, and I find it offending.

It is a challenge doing MS in this hobby, with a lot of human work being put down in every contact, so you are probably right in thinking about whether it will be fun or not having it automated, it may serve other purposes than CW and SSB contacts. Would be interesting to see what you could achieve.

Some one mentioned the 40 MHz stuff (Canada, Weather). There should be plenty of information published at conferences, say some ten years ago, regarding the channel properties.

73,
Kjell, sm7gvf

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] RE: Meteor Scatter Ramblings

From: mwheatle@trsystems.com
Date: Fri, 5 Jan 2001 17:29:10 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-128339-2001.01.05-16.46.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Kjell,

> Many many thousands of random contacts on 144 MHz CW meteor
> scatter just prove that the above is not correct, and I find it offending.

>

Certainly was not intending to offend anyone. One of my communications books
starts out with a statement that if you know nothing of the nature of a
signal, then you can never decode it, if you know everything about a signal
then there is no need to decode it. All real communications lies somewhere
in between those extremes and there is no right or wrong way to get a
message from point a to point b especially if it's just a hobby.

> It is a challenge doing MS in this hobby, with a lot of human work being
> put down in every contact, so you are probably right in thinking about
> whether it will be fun or not having it automated, it may serve other
> purposes than CW and SSB contacts. Would be interesting to
> see what you could achieve.

This is sort of a dilemma in amateur radio. All the technology improvements
in communications tend to decrease the "fun factor" in ham radio. What
makes it fun is the work and effort to make a contact. Commercial
communications is motivated to make contacts with less work and less effort
so is probably why all the recent technical advancements are there and not
in ham radio.

The mode I'm thinking about is more of a "solution looking for a problem" so
is not worth tinkering with.

Hmmm. How about an autonomous model airplane controller. Maybe i can try
and ruin their fun!

moe

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Meteor Scatter Ramblings

From: "Lionel Sear" <lionel@lsear.freeserve.co.uk>
Date: Sat, 6 Jan 2001 12:17:18 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "KF4HEY Mike Pastorcich" <KF4HEY@hotmail.com>,
        "Bernard Spencer" <spencons@globalnet.co.uk>
Message-ID: <LYR4070-128425-2001.01.06-07.03.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I wonder if there are two possible threads in this.

For a start the experience gained in the use of the PC/soundcard combination
over the last couple of years could be deployed almost immediately to make
the job of the MS enthusiast using current techniques on all parts of the RF
spectrum easier.

Secondly one could consider developing or adapting digital modes to enhance
performance. However, we must all be aware that CW and a pair of ears take a
lot of beating.

I have recently been thinking about the first thread. I have been working
towards a CW TX/RX program that provides the sort of user interface that we
have come to expect with modern programs such as the PSK31 variants, Hell
and Stream etc. There is a long way to go with this project but the ability
to to continuously send a repeated message at high speed CW as audio for
keying an SSB TX is there now. (Please can I answer the obvious
question.....the CW TX/RX program is not ready yet!)

On the receive side, I wonder about doing a five minute record to a .WAV
file at the highest soundcard sampling speed of 44125Hz and simultaneously
producing a trace of the amplitude of the received signal that would
visually show up a "ping". After five minutes the operator could mouse click
on any interesting areas of the trace, call up the .WAV file corresponding
to this and then "play" that part at 8000 or 5000Hz thus slowing the HS CW
down. This part can be enhanced. At present, as I understand it, the HSMS
enthusiast plays a slowed down tape recording which results in the audio
being heard at a frequency as low as 100Hz but they accept this. It is
possible to use FFT/inverse FFT techniques to transpose the frequencies of
interest up so that that on playing the recording at a slower rate, the
audio can be at a more acceptable frequency or even match the original. I
have done this from the opposite direction in that I have found it possible
to speed up slow CW by up to 16 times. In the case of the X16 factor, the

audio frequency is transposed down to one sixteenth of the frequency and
then sixteen successive samplings are averaged to produce the sped up data
to be played as a .WAV file with the original frequency maintained.

Anyone wanting to have a play with this can download:

      http://www.lsear.freeserve.co.uk/qrss.zip

As far as the second thread and actual coding goes, I am already acutely
aware that FSK CW would be much easier to machine decode than straight CW,
and with sufficient frequency shift, would still be decodable by ear,
especially after
simple filtering has removed the unwanted idle frequency. I would also agree
with Murray concerning Hellschreiber, but perhaps sped up more to take full
advantage of the SSB TX bandwidth.

Lastly, I seem to remember reading in the 1960's in the RSGB Bulletin (as
it was then) an account of how aircraft could supply reflections. From
memory it was by the Rev. Sollom. Could it be that MS techniques could
assist the use of such reflections if they are there?

I hope that MS buffs would see this as an attempt to help and not to
interfere.

73
Lionel
G3PPT

-----Original Message-----
From: mwheatle@trsystems.com <mwheatle@trsystems.com>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Cc: roaldo@unik.no <roaldo@unik.no>
Date: Thursday, January 04, 2001 7:46 PM
Subject: [hfsig] Meteor Scatter Ramblings

>Since this list is kind of slow and this subject is sort of HF, at least it
>deals with reflected radio waves, I will jump in.
>
>After looking at the various amateur meteor scatter communications methods
>currently in use, I was wondering if it could be improved upon using a few
>more advanced signal processing techniques. HSCW(high speed cw) seems to
be
>the most popular method and is no more than a PC soundcard version of a
tape
>recorder with slowed down playback mode. This allows the use of the more
>frequent but shorter length events(hundred millisecond or so) to pass
>information.
>
>There is another method that uses 2m FM AFSK 1200 baud AX.25 packet with
>short blocks. This mode works but requires hefty power and longer meteor
>events.
>
>My initial reaction after playing around with the programs is that there is
>significant room for improvement. I have also been told that no way could
a
>digital mode ever compete with CW and the human brain in this application.
>So like a kid being told not to stick his finger in the light socket, I
>decided to stick my finger in the light socket.
>
>Before I'm fried to a crisp, is there some fundamental reason that a mode
>could not be developed that would do at least as well as the HSCW method?
>The primary physical limitations are:
>1. The length of the burst. A data block(or maybe a partial one depending
>on the upper protocol) needs fit in as little as 50 to 100 milliseconds.
>2. The reflected power is very small so this is a very weak signal mode.
>3. The bursts are random and relatively infrequent depending on time of day
>and year.
>4. The bandwidth needs to be around 3KHz to be able to use standard voice
>channel SSB radio equipment.
>5. Interference may be an issue if many stations are reflecting off the
same
>trail.

>6. The DSP hardware is likely to be limited to the PC soundcard combo.
>
>Roald Otnes,LA5NJA has done some research in this area and provided me with
>some initial feedback based on his thesis. His inputs as a starting point:
>A. Use ~1 to 2 KBS BPSK or QPSK with some form of FEC (some commercial
>systems use)
>B. The underdense ping paths are primarily a decaying amplitude AWGN signal
>with some possible Doppler (50-75Hz) shift.
>C. The meteor event process is a Poisson process(time between pings is
>exponentially distributed).
>D. The peak amplitude (dB) is normally distributed.
>E. The decay time constant is lognormally distributed.
>
>Roald's thesis on MS can be found here if you can read Norwegian! (abstract
>is in English)
>http://home.c2i.net/rwo/roald/engindex.html
>
>
>My thoughts are that synchronization would be the major obstacle both in
>detecting the ping as well as decoding the signal since there's not much
>time to integrate the signal. The good news is there is plenty of time
>between pings to process, so even brute force searches for sync could be
>used if one could detect just the occurrence of the event with good
>sensitivity.
>
>Oh, I did kludge together a meteor path simulator from my HF path simulator
>just to be able to play around with various schemes and get some feedback
>from the MS guys as to its accuracy. The shape seems about right but the
>random processes are not yet correct.
>
>http://www.qsl.net/ae4jy/
>
>
>Just wanted to stir up some comments from the "brain trust" that hangs out
>here.
>
>If this is out of line with HF SIG just say so and I'll search for a
>different forum.
>
>Moe, AE4JY
>
>
>
>
>---
>You are currently subscribed to hfsig as: lionel@lsear.freeserve.co.uk
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] R: RE: Meteor Scatter Ramblings

From: "Nino Porcino" <iz8bly@katamail.com>
Date: Sat, 6 Jan 2001 09:44:23 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-128419-2001.01.06-03.01.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

my 0.2 $ on the synchronization matter:

why not use a varicode alphabet? Not only it's self-synchronizing, but
provides also a sort of Huffman compression. I use it in the MFSK16 and
works stupendly under the poor conditions. Its performances can be
tremendously enhanced with the use of a convolutional code and a diagonal
interleaver (they both require no synch at all) -- see
www.qsl.net/zl1bpu/MFSK

I think the no-need-to-synch is essential when designing a mode that should
fight with the poor condx.

- Nino
IZ8BLY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: [hfsig]Meteor Scatter Ramblings

From: "Moe Wheatley" <ae4jy@mindspring.com>
Date: Sat, 6 Jan 2001 15:48:54 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-128453-2001.01.06-15.02.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I wonder if there are two possible threads in this.
> For a start the experience gained in the use of the PC/soundcard combination
> over the last couple of years could be deployed almost immediately to make
> the job of the MS enthusiast using current techniques on all parts of the RF
> spectrum easier.

This is all being done currently with HSCW. I think the most popular
soundcard program is called WinMSDSP
http://www.qsl.net/w8wn/hscw/msdsp.html
and it samples incoming audio at 44.1Khz and displays the amplitude on a
scrolling screen. When you hear/see a ping, one saves the buffer and then
uses a cursor to select the ping and then play it back at up to 1/200 full
speed. There is also a way to mix a carrier with the signal to raise the now
lowered pitch back up into the
audible range. It's a pretty slick system as is and could probably be improved
upon using some better filtering, frequency domain precessing, etc. Like most of
these programs, they are constantly being improved.

>
> Secondly one could consider developing or adapting digital modes to enhance
> performance. However, we must all be aware that CW and a pair of ears take a
> lot of beating.
> I have recently been thinking about the first thread. I have been working
> towards a CW TX/RX program that provides the sort of user interface that we
> have come to expect with modern programs such as the PSK31 variants, Hell
> and Stream etc. There is a long way to go with this project but the ability
> to to continuously send a repeated message at high speed CW as audio for
> keying an SSB TX is there now. (Please can I answer the obvious
> question.....the CW TX/RX program is not ready yet!)
>
> On the receive side, I wonder about doing a five minute record to a .WAV
> file at the highest soundcard sampling speed of 44125Hz and simultaneously
> producing a trace of the amplitude of the received signal that would
> visually show up a "ping". After five minutes the operator could mouse click
> on any interesting areas of the trace, call up the .WAV file corresponding
> to this and then "play" that part at 8000 or 5000Hz thus slowing the HS CW
> down. This part can be enhanced. At present, as I understand it, the HSMS
> enthusiast plays a slowed down tape recording which results in the audio
> being heard at a frequency as low as 100Hz but they accept this. It is
> possible to use FFT/inverse FFT techniques to transpose the frequencies of
> interest up so that that on playing the recording at a slower rate, the
> audio can be at a more acceptable frequency or even match the original. I
> have done this from the opposite direction in that I have found it possible
> to speed up slow CW by up to 16 times. In the case of the X16 factor, the
> audio frequency is transposed down to one sixteenth of the frequency and
> then sixteen successive samplings are averaged to produce the sped up data
> to be played as a .WAV file with the original frequency maintained.
>
> Anyone wanting to have a play with this can download:
>
>   http://www.lsear.freeserve.co.uk/qrss.zip
>
> As far as the second thread and actual coding goes, I am already acutely
> aware that FSK CW would be much easier to machine decode than straight CW,
> and with sufficient frequency shift, would still be decodable by ear,
> especially after
> simple filtering has removed the unwanted idle frequency. I would also agree
> with Murray concerning Hellschreiber, but perhaps sped up more to take full
> advantage of the SSB TX bandwidth.

I agree that the Fuzzy modes could probably be better used here. I know the
satellite guys are also beginning to play with it as well due to it's
performance with Doppler shift.

>
> Lastly, I seem to remember reading in the 1960's in the RSGB Bulletin (as

> it was then) an account of how aircraft could supply reflections. From
> memory it was by the Rev. Sollom. Could it be that MS techniques could
> assist the use of such reflections if they are there?
>

I have read this as well but have no person experiance. If you lived near a
common aircraft route it could provide some good "pings' The FAA might
frown on beaming a few KW at all the planes during takeoff and landing.

moe

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: Meteor Scatter Ramblings

From: "Moe Wheatley" <ae4jy@mindspring.com>
Date: Sat, 6 Jan 2001 15:49:01 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-128454-2001.01.06-15.02.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> my 0.2 $ on the synchronization matter:
>
> why not use a varicode alphabet? Not only it's self-synchronizing, but
> provides also a sort of Huffman compression. I use it in the MFSK16 and
> works stupendly under the poor conditions. Its performances can be
> tremendously enhanced with the use of a convolutional code and a diagonal
> interleaver (they both require no synch at all) -- see
> www.qsl.net/zl1bpu/MFSK
>
> I think the no-need-to-synch is essential when designing a mode that
should
> fight with the poor condx.
>
> - Nino
> IZ8BLY

Hi Nino,
A variable code alphabet may work. Messages may consist mainly of call
signs and grid coordinates so am not sure there would be the usual bit
savings as with standard english text. Just have to test and see. Not sure
what FEC scheme is best. The real problem is lack of bits to work with.
Imagine 50 milliseconds of signal folowed by 5 to 10 minutes of complete
"fade". An interleaver doesn't help and convolutional coding may not have
enough time just haven't looked at the details.
The MS path presents some interesting design challenges if there was some
way to fit it into the current amateur operating paradigms.

BTW, how fast(characters/sec) can the "Fuzzy" modes be pushed and still fit
in the audio bandwidth? That type of mode may be acceptable in the amateur
MS circles.

Moe

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Ionospheric Simulation Comparison of PSK31 Programs

From: "Mike Pastorcich" <kf4hey@hotmail.com>
Date: Wed, 24 Jan 2001 19:38:32 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-131098-2001.01.24-19.53.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am setting up an experimental program to compare the various soundcard
implementations of the PSK31 mode under simulated anomalous ionsopheric
conditions. I plan to categorize and test the modes according to the math
modules used in the various programs. I believe Zakanaka, WinPSK, WinPSKSe,

PSK-PAL, WinWarbler and DX4WIN all use the pskcore.dll configuration. I
would appreciate any information that would help me categorize the other
programs including PSK31SBW, Digipan, STREAM, HamScope and any other program
not listed.

73,
Mike KF4HEY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: Ionospheric Simulation Comparison of PSK31 Programs

From: frohro <frohro@wwc.edu>
Date: Wed, 24 Jan 2001 17:54:40 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-131099-2001.01.24-20.01.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Mike,

I think your project is very interesting. I would love to have Multimode on
the Mac compared to the others. In my little bit of testing, I have found it
to be somewhat lacking. When you are done, please let us all know the results.

73,

Rob, KL7NA/W7

Mike Pastorcich wrote:

> I am setting up an experimental program to compare the various soundcard
> implementations of the PSK31 mode under simulated anomalous ionsopheric
> conditions. I plan to categorize and test the modes according to the math
> modules used in the various programs. I believe Zakanaka, WinPSK, WinPSKSe,
> PSK-PAL, WinWarbler and DX4WIN all use the pskcore.dll configuration. I
> would appreciate any information that would help me categorize the other
> programs including PSK31SBW, Digipan, STREAM, HamScope and any other program
> not listed.
>
> 73,
> Mike KF4HEY
>
> ---
> You are currently subscribed to hfsig as: FROHRO@WWC.EDU
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

--
Rob Frohne
Ph.D., P.E., Professor
E. F. Cross School of Engineering
Walla Walla College
web page: http://www.wwc.edu/~frohro
e-mail: frohro@wwc.edu

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: Meteor Scatter Ramblings

From: Gary Chatters <gc@Radix.Net>
Date: Fri, 26 Jan 2001 17:06:03 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-131374-2001.01.26-16.19.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Slashdot, http://slashdot.org, had an article on "Communicating with
Space Dust", which turns out to be meteor scatter. There is a link
to http://www.starcomwireless.com/technology/articlereader.asp?tf=StarCom_Technology.txt.

The Starcom web page is promoting commercial use of meteor scatter
communications, but it does have a brief introductory explanation
of the phenomenon, covering nature of meteor trails, data rates,
freqencies to use, etc. Not being knowledgeable about ms, I found
it interesting.

gc

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: Ionospheric Simulation Comparison of PSK31 Programs

From: Paul Sadowski <sadowski@bellsouth.net>
Date: Sun, 28 Jan 2001 10:44:20 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-131598-2001.01.28-10.04.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I too would love to see the results of this... and in time... comparisons
against other new digital HF modes...

Thanks for the effort

AH6LS

Mike Pastorcich wrote:

> I am setting up an experimental program to compare the various soundcard
> implementations of the PSK31 mode under simulated anomalous ionsopheric
> conditions. I plan to categorize and test the modes according to the math
> modules used in the various programs. I believe Zakanaka, WinPSK, WinPSKSe,
> PSK-PAL, WinWarbler and DX4WIN all use the pskcore.dll configuration. I
> would appreciate any information that would help me categorize the other
> programs including PSK31SBW, Digipan, STREAM, HamScope and any other program
> not listed.
>
> 73,
> Mike KF4HEY
>
> ---
> You are currently subscribed to hfsig as: SADOWSKI@BELLSOUTH.NET
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: Ionospheric Simulation Comparison of PSK31 Programs

From: "Michael Pastorcich" <kf4hey@hotmail.com>
Date: Sun, 28 Jan 2001 10:34:2
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-131603-2001.01.28-10.47.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Paul, et al,

To improve the statistical significance of the results and have something
of a "real world" test, I plan to solicit as many folks as possible to do
as much of the decoding and scoring as they can. I will provide the WAVE
files, a set of instructions and a scoring sheet. The experimental program
will be uploaded to the files area of the DigitalModes@yahoogroups.com
reflector. I should have it wrapped up and ready to go within the next day
or so. Please plan to participate.

DigitalModes is an open reflector and you may join by going to
http://groups.yahoo.com/group/DigitalModes and subscribing.

Mike KF4HEY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

February 2001

Original source file: hfsig.0102
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0102

1. [hfsig] .

From: hk67hk89@yahoo.com
Date: 05 Feb 01 12:14:44 PM
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-133124-2001.02.05-16.12.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

DO YOU HAVE BAD CREDIT?

DO WHAT The RICH Have been DOING for YEARS!

WOULD YOU LIKE to ERASE THE BAD CREDIT from your credit history, LEGALLY!

YOU CAN repair your credit! It's easy!

These Credit Repair Methods Are Legal and

Governed by the Federal Trade Commission

YOU CAN:

* Pay Off your CREDIT CARDS for PENNIES On The Dollar and Have Better Credit Then Before.
* RESTORE your credit With the government's help!
* Cut your current credit card payments up to 50%
* ERASE THE BAD CREDIT from your credit history, LEGALLY!
* BUY New Homes, New Cars, Furniture, Appliances AND Virtually any Credit Card You Desire
* Stop creditor harassment

100% Legal - 100% Satisfaction Guaranteed

<A HREF="http://www.geocities.com/lawcd2000">CLICK here for more Information OR to PURCHASE</A>

<A HREF="mailto:mixed1612@yahoo.com">IF you did not opt-in for this email and Received this email in error click here for removal </A>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Help me find info

From: "Alexander Gurny" <alexandergurny@yahoo.co.uk>
Date: Tue, 6 Feb 2001 19:40:54
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-133458-2001.02.06-19.55.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I read in WUN's files that on some frequinces is used STANAG 4258 mode.
Can you explain me what is a kind of mode?
Give me, please, some info or web-links referencing to this mode.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: Help me find info

From: mike.chace@mindspring.com
Date: Tue, 06 Feb 2001 20:57:03 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-133462-2001.02.06-20.11.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

STANAG4285 is a 2400bd PSK modem used by many NATO organizations.
Check the WUN Digital Signals FAQ available at the WUN website for
more details.

73, Mike

TAPR HF Special Interest Group <hfsig@lists.tapr.org> wrote:
> I read in WUN's files that on some frequinces is used STANAG 4258 mode.
Can you explain me what is a kind of mode?
Give me, please, some info or web-links referencing to this mode.

You are currently subscribed to hfsig as: mike@chace-ortiz.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] TAPR Press Release

From: John Ackermann N8UR <jra@febo.com>
Date: Sat, 10 Feb 2001 20:10:33 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: tapr-bb@lists.tapr.org, aprssig@lists.tapr.org, netsig@lists.tapr.org,
        bbssig@lists.tapr.org, picsig@lists.tapr.org, hfsig@lists.tapr.org,
        tacgps@lists.tapr.org, tapr-org@lists.tapr.org, htaprs@lists.tapr.org
Message-ID: <LYR4070-134373-2001.02.10-19.25.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FOR IMMEDIATE RELEASE

February 10, 2001
TAPR APPOINTS NEW DIRECTORS, SECRETARY

Steve Stroh, N8GNJ, and Byon Garribrant, N6BG, have been appointed to the
TAPR Board of Directors, and Guy Story, KC5GOI, has been appointed the
organization's Secretary.

Steve Stroh is a long time member of TAPR. He lives in Woodinville,
Washington, a suburb of Seattle, where he is a member of the Puget Sound
Amateur Radio TCP/IP Group (also known as WetNET, the Washington
Experimenter's TCP/IP Group) and MicroHAMs, the Microsoft Amateur Radio
Club. Steve's major interests in Amateur Radio are digital modes and
advanced wireless networking. Steve has been the manager of TAPR's
"NetSig" special interest group for several years, and has also been active
in TAPR's spread spectrum SIG.

Steve was recently named Digital Editor for CQ Amateur Radio Magazine and
writes CQ's monthly Digital Wireless column. Professionally, he is a
full-time Independent Technology Writer, focusing on Broadband Wireless
Internet Access.

Steve will fill the remaining Board term of Greg Jones, WD5IVD, who
previously announced his desire to resign from his TAPR offices after many
years of service.

Byon Garribrant has been active in packet radio and transmitter hunting
since he was licensed in 1990. He served as the Digital Communications
Officer for Orange County RACES for 5 years, maintaining the group's packet
BBS, and organizing digital communication exercises using packet
message-passing software he created.

In 1998, Byon began actively working with TAPR as a member of the PIC-E
design team, and published the firmware used in the PIC-E. He has also
given presentations at the last three Digital Communication Conferences on

PIC programming. Byon has created several PIC-based amateur radio devices, including the GST-1 and GST-2, which allow GPSs to be used with APRS, the TinyTrak, an inexpensive TNC replacement for an APRS tracker, and PicCon, a transmitter controller for T-Hunting. He sells these devices as kits from his home business, Byonics. He lives in Las Vegas, Nevada, with his wife, Lara, KD6AYO, and three children and works as a computer game programmer for Westwood Studios.

Byon will fill the remaining Board term of Barry McLarnon, VE3JF, who served TAPR as a Director and volunteer for many years. TAPR will miss Barry's technical knowledge and true ham spirit.

Guy Story was first licensed in 1994 and has been an active packet radio user since his first day as a ham. He operated a TCP/IP station using JNOS before becoming active in APRS in early 1997, when he also joined TAPR. As a TAPR member, he has been actively involved in the organization's APRS and spread spectrum activities. Guy is also the APRS Chairman and repeater control operator for the Denton County Amateur Radio Association and is an assistant emergency coordinator for Denton County ARES.

Guy lives in Denton, Texas and is an Electronics Technician in the area of EMC/EMI compliance for Interphase Corporation in Dallas.

Guy takes over as Secretary from Bob Hansen, N2GDE, who continues as a Director and as Editor of the Packet Status Register, TAPR's quarterly journal.

About TAPR
TAPR (officially, Tucson Amateur Packet Radio, Inc.) is a non-profit research and development corporation dedicated to advancing amateur radio through digital technology. It focuses on development of hardware and software tools that enable ham radio operators to explore leading edge technologies. Despite its name, TAPR is an international organization with over 2000 members worldwide.

Contact information:
Telephone: (940) 383-0000
Email: tapr@tapr.org
Web: http://www.tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Digital on Board the Golden Bear

From: "Pat Barthelow" <aa6eg@bob.tmx.com>
Date: Wed, 28 Feb 2001 15:3:4
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-137944-2001.02.28-15.18.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Folks,

I am brand new to the list, 33 yrs a ham, new to digital modes, such as psk31, mfsk16.
I want to put the word out that I will be aboard the Golden Bear on a 2 month summer cruise, betwen Hawaii, and the Far East, including Hong Kong, Sasebo, Midway, Truk Lagoon, and Shanghai.
We are staff for the cruise, which consists of college students from various Universities. CSU Monterey Bay, has an At Sea Program (http://atsea.monterey.edu for details) that will use ham radio on board the cruise as a medium for learning, by the Telecomm students that will travel. We had a Pactor II hf Station on the cruise last year, with great success, it was used to tie into the internet via Winlink. Over 6000 emails were generated and sent during the cruise.
We will do the same this year, but I want to add PSK31 and MFSK 16 modes.

I am preparing my computer at the club station to operate the PSK31 and MFSK16 modes and would like to invite any who may be interested to join us and follow us over the air during the cruise, beginning in late June, going to late August.

Being a newcomer to PSK 31 and MFSK16, I may ask for tips and help to get up and running....
Tnx, de Pat,
AA6EG/N6IJ
599 DX Drive

Marina CA 93933
aa6eg@bob.tmx.com, or
n6ij@hotmail.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

March 2001

Original source file: hfsig.0103
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0103

1. [hfsig] Re: your command request

From: Dale Coleman <kf4sir@earthlink.net>
Date: Fri, 02 Mar 2001 11:48:22 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: n6ij@hotmail.com
Message-ID: <LYR4070-138277-2001.03.02-06.21.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:35 PM 3/1/01, you wrote:
>Here is the text of Message 61108:
>
>Date: Wed, 28 Feb 2001 15:3:4
>From: "Pat Barthelow" <aa6eg@bob.tmx.com>
>Subject: Digital on Board the Golden Bear
>
>Hello Folks,
>
>I am brand new to the list, 33 yrs a ham, new to digital modes, such as
>psk31, mfsk16.
>I want to put the word out that I will be aboard the Golden Bear on a 2
>month summer cruise, betwen Hawaii, and the Far East, including Hong Kong,
>Sasebo, Midway, Truk Lagoon, and Shanghai.

Hi Pat, welcome to the interesting world of sound card digital ham radio.

Sorry for the delay in replying - I read this group in digest form and this
slows it down a bit for me.

>We are staff for the cruise, which consists of college students from
>various Universities. CSU Monterey Bay, has an At Sea Program
>(http://atsea.monterey.edu for details) that will use ham radio on board
>the cruise as a medium for learning, by the Telecomm students that will
>travel. We had a Pactor II hf Station on the cruise last year, with great
>success, it was used to tie into the internet via Winlink. Over 6000
>emails were generated and sent during the cruise.
>We will do the same this year, but I want to add PSK31 and MFSK 16 modes.

Your cruise sounds very interesting and I believe both PSK31 and MFSK16
could add a lot of fun and interest.

>I am preparing my computer at the club station to operate the PSK31 and
>MFSK16 modes and would like to invite any who may be interested to join us
>and follow us over the air during the cruise, beginning in late June, going
>to late August.
>
>Being a newcomer to PSK 31 and MFSK16, I may ask for tips and help to get
>up and running....
>Tnx, de Pat,
>AA6EG/N6IJ
>599 DX Drive
>Marina CA 93933
>aa6eg@bob.tmx.com, or
>n6ij@hotmail.com

I would be happy to help in any way I can. Also, there are some other mail
groups that have much more traffic and cover PSK31 and MFSK16.

Also of interest might be my relay page, I'm working on a system that could
send short messages using PSK31 and or MFSK16.
http://psk31relay.net

There is a link page there that has links to some of the other mail groups
and to setup info.
(click on the software link)

This should get you started and please feel free to e-mail me and I will
try and help as best I can.

CUL, Dale kf4sir

PS - talk to me about the new free sound card SSTV program (MMSSTV) that
could be a lot of fun for you if you can run a bit of power. (You could
send pictures of your cruise over HF and it works very well and is quite fast

-
Dale Coleman
kf4sir@earthlink.net
http://home.earthlink.net/~kf4sir

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Calling Alexander Gurney

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 2 Mar 2001 15:06:20 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-138315-2001.03.02-09.29.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If Alexander Gurney is subscribed, please can he send me a working
e-mail address.

Your altavista address bounced my message with 2 attachments.
Ant

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: Calling Alexander Gurney

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 2 Mar 2001 16:17:22 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-138322-2001.03.02-10.47.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Marconi Communications Experts have reverse-engineered
the cryptographic messages from altavista's mail delivery bot
and according to the hallowed RFC1893 we ernestly conclude:

Mr Gurney, your mailbox is full!

:-)

Ant
(Hope he's subscribed to HFSIG at another address)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Unidentified Digital Mode

From: Ed Dial <diale@mindspring.com>
Date: Fri, 02 Mar 2001 13:56:56 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-138356-2001.03.02-15.12.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can someone tell me what that digital mode is that sounds like lazy
(SLOOOW) SSTV? It sounds like maybe three or four tones in maybe .25 second
intervals.

Thanks - Ed
WA4RYW - VK2IOS

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] RE: Unidentified Digital Mode

From: mwheatle@trsystems.com
Date: Fri, 2 Mar 2001 16:50:09 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-138364-2001.03.02-16.08.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It could be a mode called "throb", a slow multi-tone mode by Lionel Sear
G3PPT.
http://www.lsear.freeserve.co.uk/page3.html

moe,ae4jy

> -----Original Message-----
> From: Ed Dial [mailto:diale@mindspring.com]
> Sent: Friday, March 02, 2001 3:57 PM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Unidentified Digital Mode
>
>
> Can someone tell me what that digital mode is that sounds like lazy
> (SLOOOW) SSTV? It sounds like maybe three or four tones in
> maybe .25 second
> intervals.
>
> Thanks - Ed
> WA4RYW - VK2IOS
>
>
> ---
> You are currently subscribed to hfsig as: MWHEATLE@TRSYSTEMS.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: Unidentified Digital Mode

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 3 Mar 2001 10:43:11 +1300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-138365-2001.03.02-16.09.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Maybe it's FAX. Time the transmission - should be eactly one, two or three
lines / second if it's FAX. It might also be one of the digital FAX
transmissions, or MFSK?

How about you quote some frequencies where you hear it, or send us a WAV
sample.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Unidentified Digital Mode

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Fri, 2 Mar 2001 17:32:22 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "Price, Brennan, N4QX" <N4QX@arrl.org>
Message-ID: <LYR4070-138371-2001.03.02-16.54.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have located a number of sites that have various audio files of different
modes.

See:

http://www.arrl.org/~ehare/digital/soundlinks.htm

73,
Ed Hare, W1RFI

ARRL Laboratory
225 Main St
Newington, CT 06111
Tel: 860-594-0318
FAX: 860-594-0259
Internet: w1rfi@arrl.org
ARRL Web: http://www.arrl.org
ARRL Technical Information Service: http://www.arrl.org/tis/

-----Original Message-----
From: Coombe Down [mailto:coombedn@ihug.co.nz]
Sent: Friday, March 02, 2001 4:43 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: Unidentified Digital Mode

Maybe it's FAX. Time the transmission - should be eactly one, two or three
lines / second if it's FAX. It might also be one of the digital FAX
transmissions, or MFSK?

How about you quote some frequencies where you hear it, or send us a WAV
sample.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: w1rfi@arrl.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Unidentified Digital Mode

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Sat, 3 Mar 2001 06:48:51 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "Price, Brennan, N4QX" <N4QX@arrl.org>
Message-ID: <LYR4070-138493-2001.03.03-06.11.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry about the password protection on some of the sites. Either I have an
account there and my Windows logs in automatically or they have added
password access since I first logged in.

The last two sites on the list appear to be public.

73,
Ed Hare, W1RFI

-----Original Message-----
From: Hare,Ed, W1RFI
To: TAPR HF Special Interest Group
Cc: Price, Brennan, N4QX
Sent: 3/2/2001 05:32 PM
Subject: [hfsig] Re: Unidentified Digital Mode

I have located a number of sites that have various audio files of
different
modes.

See:

http://www.arrl.org/~ehare/digital/soundlinks.htm

73,
Ed Hare, W1RFI
ARRL Laboratory
225 Main St
Newington, CT 06111
Tel: 860-594-0318
FAX: 860-594-0259
Internet: w1rfi@arrl.org

ARRL Web: http://www.arrl.org
ARRL Technical Information Service: http://www.arrl.org/tis/

-----Original Message-----
From: Coombe Down [mailto:coombedn@ihug.co.nz]
Sent: Friday, March 02, 2001 4:43 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: Unidentified Digital Mode

Maybe it's FAX. Time the transmission - should be eactly one, two or three
lines / second if it's FAX. It might also be one of the digital FAX
transmissions, or MFSK?

How about you quote some frequencies where you hear it, or send us a WAV
sample.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: w1rfi@arrl.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: w1rfi@arrl.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: [psk31] aprs/psk31

From: Bob Bruninga <bruninga@usna.edu>
Date: Thu, 8 Mar 2001 20:43:08 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: psk31@bipt106.bi.ehu.es,
TAPR APRS Special Interest Group <aprssig@tapr.org>, hfsig@tapr.org
Message-ID: <LYR4070-139538-2001.03.08-20.00.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 8 Mar 2001, jljarvis wrote:

> IF aprs-psk31 were limited to one frequency...for one purpose....
> I could see it making sense....
> ... Using the SAME freq. would provide a net of
> semi-automated fixed stations, which could provide support.
>
> If we were to consider what GOOD it would do...perhaps we could more readily
> come to a conclusion, as opposed to extended debate...

Well, as a target frequency, I would suggest 10.149900, the highest in the
30m band. Currently the international APRS packet frequency is 10.149.3
and is considered to be the highest legal packet frequency in the band.
Since any APRS on PSK would be a dedicated to one and only one frequency
on that band, and it is only 100 hz wide, then why not target the last 100
hz in the band. I want to make sure that it is FAR from PSK-31 QSO's so
that they dont feel threatened...

So by having a target, now you have something to shoot at... good or
bad... COmments?

Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: Unidentified Digital Mode

From: "Mike Chace-Ortiz" <mike@chace-ortiz.org>
Date: Fri, 9 Mar 2001 17:23:02 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "Price, Brennan, N4QX" <N4QX@arrl.org>
Message-ID: <LYR4070-139693-2001.03.09-16.29.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

By far the most comprehensive lives at:

http://rover.wiesbaden.netsurf.de/~signals

73, Mike

-----Original Message-----
From: bounce-hfsig-19043@lists.tapr.org
[mailto:bounce-hfsig-19043@lists.tapr.org]On Behalf Of Hare,Ed, W1RFI
Sent: Friday, March 02, 2001 17:32
To: TAPR HF Special Interest Group
Cc: Price, Brennan, N4QX
Subject: [hfsig] Re: Unidentified Digital Mode

I have located a number of sites that have various audio files of different
modes.

See:

http://www.arrl.org/~ehare/digital/soundlinks.htm

73,
Ed Hare, W1RFI
ARRL Laboratory
225 Main St
Newington, CT 06111
Tel: 860-594-0318
FAX: 860-594-0259
Internet: w1rfi@arrl.org
ARRL Web: http://www.arrl.org
ARRL Technical Information Service: http://www.arrl.org/tis/

-----Original Message-----
From: Coombe Down [mailto:coombedn@ihug.co.nz]
Sent: Friday, March 02, 2001 4:43 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: Unidentified Digital Mode

Maybe it's FAX. Time the transmission - should be eactly one, two or three
lines / second if it's FAX. It might also be one of the digital FAX
transmissions, or MFSK?

How about you quote some frequencies where you hear it, or send us a WAV
sample.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: w1rfi@arrl.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: mike@chace-ortiz.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] PSK31 Simulation Study

From: "Michael Pastorcich" <kf4hey@hotmail.com>
Date: Wed, 14 Mar 2001 16:27:44
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>

Message-ID: <LYR4070-439-2001.03.14-16.43.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

All,

As the number of PSK31 brands available to digital mode operators grew, the
question of which program performs better under adverse conditions has been
asked many times. Aside from obvious differences in the GUI and logging
capability of each brand, the only real difference is in the math engines
driving the TX/RX functions. There are at least a dozen brands of PSK31
programs available for Windows alone and several versions for Mac and Linux
users. Among these, there seems to be about four different math engines
employed, so those programs running the same algorithms should have very
similar performance. Over the past year or so several attempts were made to
gather data from beaconning experiments to make a judgement. However, the
data has been sparse and the conditions too sporadic to draw any systematic
conclusions. I have assembled an ionospheric simulation study of eleven
brands of PSK31 in which you may participate and help answer the question
of which brand is the best performer.

All you need for this study is your ham shack PC, the latest versions of
the PSK31 programs, MicroSoft Word and Excel, an inquiring mind and
patience. The study is contained in four zip files in a folder titled
"PSK31 Simulation Study" in the files area of these Yahoo! Groups:
DigitalModes, Digitalradio, PSK-TARA and PSK31. The study instructions
(ReadMe.doc) and the scoresheet in Excel along with two of the .WAV files
are contained in the first zip file. The other three zips contain the
remaining .WAV files for the study. Please review the instructions
carefully as the soundcard setup procedure is very important to ensure
consistency among all the participants.

You will notice right away that if you attempt to do all the tests, you
will be sitting at your computer for a long time! The entire study is
composed of 660 trials, so I don't recommend that you try to do the whole
thing. To limit the amount of work, only run part of the study. For
instance, choose only a few brands to run all the trials or perhaps run
only the AWGN (S/N ratio) trials on those you know to have different math
engines, etc. Be creative in choosing which part of the study to run. If
you are a Herculean experimenter, then run the whole thing. The more data
I collect, the more statistically significant will be the results.

I will leave the study open until April 30. After that I will collate the
received data and post the results on the listed reflectors. If you have
questions or difficulty please e-mail me at KF4HEY@hotmail.com or post your
questions here on the reflector.

GL es 73,
Mike KF4HEY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] .

From: mk832mn57@yahoo.com
Date: 24 Mar 24 7:21:06 PM
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-2693-2001.03.24-21.33.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Important message ....Please print and read...................

We will put your product or service instantly into the hands of millions of prospects!

Since 1996, Tech Data Technologies has provided bulk email marketing to thousands of well-satisfied customers. We offer the most competitive prices in the industry, made possible by our high percentage of repeat business. We have the most advanced, direct email technology, employed by only a knowledgeable few in the world.

We have over 160 million active email addresses, increasing our list at the rate of half a million to one million a month. You will have instant, guaranteed results, something no other form of marketing can claim. Our turn around time is a remarkable 24 hours.

Our email addresses are sorted by country, state, city and target. Your marketing campaign will
speed with pinpoint accuracy to your desired audience!

Call us for a free consultation at 323 876 6148 [U.S.A.].

For a limited time, take advantage of our special -- Three million general U.S. emails for just
$600 per million! We include, at no cost, a bulletproof email address for 30 days, a $400 value!

BULK EMAIL PRICES

  750,000.....$562
1,200,000.....$720
1,600,000.....$960
3,000,000+.....PLEASE CALL FOR A QUOTE

Best of ALL, Tech Data Services can be used as a 100% TAX WRITE OFF for your Business!

==========
"Many business people are finding out that they can now advertise in ways that they never
could have afforded in the past. The cost of sending mass e-mail is extremely low, and the
response rate is high and quick." - USA TODAY
==========

 1) Let's say you... Sell a $24.95 PRODUCT or SERVICE.
 2) Let's say you... Mass Email to 1,000,000 PEOPLE DAILY.
 3) Let's say you... Receive JUST 1 ORDER for EVERY 2,500 EMAILS.

 CALCULATION OF YOUR EARNINGS BASED ON THE ABOVE STATISTICS:
 [Day 1]: $9,980 [Week 1]: $69,860 [Month 1]: $279,440
Now you know why you receive so many email advertisements...
 ===> MASS EMAIL ADVERTISING IS EXTREMELY PROFITABLE!

Under Bill s.1618 TITLE III passed by the 105th U.S. Congress this letter is not considered "spam" as
long as we
include: 1) contact information and, 2) the way to be removed from future mailings (see below). To
Remove
Yourself From This List: Please email see2meu4@yahoo.com with the email address that you would like
removed
and the word REMOVE in the subject heading.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: Calling Alexander Gurney

From: Alexander Gurny <alexandergurny@yahoo.co.uk>
Date: Sun, 25 Mar 2001 14:45:26 +0100 (BST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-2742-2001.03.25-08.01.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- Anthony N Martin <Anthony.N.Martin@marconi.com>
wrote: >
>
> If Alexander Gurney is subscribed, please can he
> send me a working
> e-mail address.
>
> Your altavista address bounced my message with 2
> attachments.
> Ant
>
>
>
> ---
> You are currently subscribed to hfsig as:
> alexandergurny@yahoo.co.uk

> To unsubscribe send a blank email to
> leave-hfsig-4070F@lists.tapr.org
>
My new address is "alexandergurny@usa.net"
Write me, please, if you have some problem with ny new
address.

By.

_____
Do You Yahoo!?
Get your free @yahoo.co.uk address at http://mail.yahoo.co.uk
or your free @yahoo.ie address at http://mail.yahoo.ie

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] An Invitation from the Asia-Pacific Rim

From: "APEC" <apec@chinanusa.com>
Date: Wed, 28 Mar 2001 17:55:50 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-3675-2001.03.29-19.27.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Aiming at Asia-Pacific Market?
Here's your one and only chance this year to target
21 developed and developing member economies in the Asia-Pacific rim
<http://www.apec2001.org/apec_member.asp> .

 Industrial Science and Technology Cooperation
 Conference and Exhibition
 September 21 - 25, 2001
 Suzhou, China

 An hour's drive from Shanghai, the biggest city in China

Who Should Attend
*   Technology-oriented companies who want to   demonstrate
advanced technologies or to seek   joint ventures
*   Venture capitalists and other investors who   want to identify
promising high-tech   companies and investment opportunities
*   Entrepreneurs who are seeking market   expansion to the
Asia-Pacific region

Best Chance to Showcase Technologies
*   Exhibition & transaction of high technology &   hi-tech
products.
*   Bid for technological cooperation.
*   Discussions & negotiations on technological   transaction and
cooperation.
*   APEC forum on science and technology.

All the Opportunities!
*   Technomart is endorsed by APEC's 21   member economies that
had a combined   Gross Domestic Product of over US$18 trillion   in
1999 and 43.85 percent of global trade.
*   In Technomart III, attendees included 1,000+   hi-tech
exhibitors and recorded 37,000 visitors.
*   In Technomart III, over 5,000 business   negotiations
occurred, involving trade in   excess of about US$ 100 million over
the   course of the five-day event.
*   Direct connection to China market.

        Service Center
*   Technomart representation
*   Exhibition Booth & Expense
<http://www.apec2001.org/apec_booth.asp>
*   Booth arrangements and allocation
*   Transportation
*   Hotels <http://www.apec2001.org/apec_hotel.asp>
*   Sourcing/manufacturers visits
*   On-site public relation facilitation, media   coverage
*   Collateral translation
*   Escort interpretation

*   Leisure touring in Suzhou and its vacinities

Key Technological Areas
*   Biotechnology
*   Environmental and cleaner production   technologies
*   Communication
*   Information technologies / electronics
*   Advanced materials
*   Mechatronics
*   Transportation
*   Resource management technology
*   Energy
*   Sustainable agriculture
*   Emergency preparedness and climate   prediction
*   Exploitation of natural resources

  For more information about the upcoming APEC Technomart IV, please
visit:
http://www.apec2001.org
  For inquiring a brochure, please visit:
http://www.apec2001.org/apec_register.asp
  For Technomart IV services, please visit:
http://www.apec2001.org/apec_serve.asp
  For exhibition booth information, please visit:
http://www.apec2001.org/apec_booth.asp
  For on-line registration information, please click:
<http://www.apec2001.org/apec_registernow.asp>
For further questions, please email us at apec@CHINAnUSA.com
<mailto:apec@CHINAnUSA.com> or call Jessica Pan at (510) 497-8783.
  _____

CHINAnUSA.com is proud to represent APEC Technomart IV committee here in
the US to work closely with you. It is our pleasure to assist you in
every aspect for the most beneficial trade show.

The past Technomart initiated trillions of transactions. Register today
<http://www.apec2001.org/apec_registernow.asp> !
We look forward to your participation and seeing you in Suzhou, China.

Authorized representative of APEC Technomart IV

Unsubscribe:
If you received this message in error or wish to unsubscribe from this
subject, just click here: Click here.
<http://www.apec2001.org/unsub/unsubscribe.asp?mail_id=hfs3766100408855>

Or you can reply to this email with 'Unsubscribe' as subject title.

All trademarks are the property of their respective owners (C)2001 All
rights reserved.

15. [hfsig] Re: An Invitation from the Asia-Pacific Rim

From: ko4qc@mindspring.com (Joel Gamble)
Date: Fri, 30 Mar 2001 11:22:31 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-3825-2001.03.30-10.39.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Who is this 'Son of a Bitch" who consistently uses this 'sig' to spam?Why is
he allowed to continue doing so?

>
>Aiming at Asia-Pacific Market?
>Here's your one and only chance this year to target
>21 developed and developing member economies in the Asia-Pacific rim
><http://www.apec2001.org/apec_member.asp> .
>
>
> Industrial Science and Technology Cooperation
> Conference and Exhibition
> September 21 - 25, 2001
> Suzhou, China
>
>
> An hour's drive from Shanghai, the biggest city in China
>
>Who Should Attend
>*   Technology-oriented companies who want to   demonstrate

>advanced technologies or to seek joint ventures
>* Venture capitalists and other investors who want to identify
>promising high-tech companies and investment opportunities
>* Entrepreneurs who are seeking market expansion to the
>Asia-Pacific region
>
>
>Best Chance to Showcase Technologies
>* Exhibition & transaction of high technology & hi-tech
>products.
>* Bid for technological cooperation.
>* Discussions & negotiations on technological transaction and
>cooperation.
>* APEC forum on science and technology.
>
>
>All the Opportunities!
>* Technomart is endorsed by APEC's 21 member economies that
>had a combined Gross Domestic Product of over US$18 trillion in
>1999 and 43.85 percent of global trade.
>* In Technomart III, attendees included 1,000+ hi-tech
>exhibitors and recorded 37,000 visitors.
>* In Technomart III, over 5,000 business negotiations
>occurred, involving trade in excess of about US$ 100 million over
>the course of the five-day event.
>* Direct connection to China market.
>
> Service Center
>* Technomart representation
>* Exhibition Booth & Expense
><http://www.apec2001.org/apec_booth.asp>
>* Booth arrangements and allocation
>* Transportation
>* Hotels <http://www.apec2001.org/apec_hotel.asp>
>* Sourcing/manufacturers visits
>* On-site public relation facilitation, media coverage
>* Collateral translation
>* Escort interpretation
>* Leisure touring in Suzhou and its vacinities
>
>
>Key Technological Areas
>* Biotechnology
>* Environmental and cleaner production technologies
>* Communication
>* Information technologies / electronics
>* Advanced materials
>* Mechatronics
>* Transportation
>* Resource management technology
>* Energy
>* Sustainable agriculture
>* Emergency preparedness and climate prediction
>* Exploitation of natural resources
>
> For more information about the upcoming APEC Technomart IV, please
>visit:
>http://www.apec2001.org
> For inquiring a brochure, please visit:
>http://www.apec2001.org/apec_register.asp
> For Technomart IV services, please visit:
>http://www.apec2001.org/apec_serve.asp
> For exhibition booth information, please visit:
>http://www.apec2001.org/apec_booth.asp
> For on-line registration information, please click:
><http://www.apec2001.org/apec_registernow.asp>
>For further questions, please email us at apec@CHINAnUSA.com
><mailto:apec@CHINAnUSA.com> or call Jessica Pan at (510) 497-8783.
> _____
>
>CHINAnUSA.com is proud to represent APEC Technomart IV committee here in
>the US to work closely with you. It is our pleasure to assist you in
>every aspect for the most beneficial trade show.
>
>The past Technomart initiated trillions of transactions. Register today
><http://www.apec2001.org/apec_registernow.asp> !
>We look forward to your participation and seeing you in Suzhou, China.
>
>Authorized representative of APEC Technomart IV

```
>
>Unsubscribe:
>If you received this message in error or wish to unsubscribe from this
>subject, just click here: Click here.
><http://www.apec2001.org/unsub/unsubscribe.asp?mail_id=hfs3766100408855>
>
>Or you can reply to this email with 'Unsubscribe' as subject title.
>
>All trademarks are the property of their respective owners (C)2001 All
>rights reserved.
>
>
>
><!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
><HTML><HEAD>
>
><META content="MSHTML 5.00.2920.0" name=GENERATOR></HEAD>
><BODY aLink=blue link=blue topMargin=3 vLink=blue>
><BLOCKQUOTE>
>  <TABLE align=center bgColor=#ffffff border=0 cellPadding=0 cellSpacing=0
>  width=580>
>    <TBODY>
>    <TR>
>      <TD><IMG border=0 height=20
>        src="http://www.apec2001.org/email/images/email_head.jpg" width=580
>        NOSEND="1"></TD></TR></TBODY></TABLE>
>  <TABLE align=center bgColor=#ffffff border=0 cellPadding=5 cellSpacing=0
>  width=580>
>    <TBODY>
>    <TR>
>      <TD align=middle><FONT color=red face=Arial size=5><B>Aiming at
>        Asia-Pacific Market?</B></FONT></TD>
>    <TR>
>      <TD align=middle><FONT color=blue face=Arial size=3><B>Here's your one
>        and only chance this year to target <BR><A
>        href="http://www.apec2001.org/apec_member.asp">21 developed and
>        developing member economies in the Asia-Pacific
>  rim</A>.</B></FONT></TD></TR></TBODY></TABLE><BR>
>  <TABLE align=center bgColor=#ffffff border=0 cellPadding=0 cellSpacing=0
>  width=580>
>    <TBODY>
>    <TR>
>      <TD align=left bgColor=#000000 vAlign=top width="45%">
>        <TABLE align=left bgColor=#000000 border=0 cellPadding=2 cellSpacing=0
>        width="76%">
>          <TBODY>
>          <TR>
>            <TD align=left vAlign=center>  <IMG border=0 height=47
>              src="http://www.apec2001.org/email/images/apec_head.gif"
width=87
>              NOSEND="1"></TD>
>            <TD><IMG border=0 height=20
>              src="http://www.apec2001.org/email/images/IV1.gif" width=168
>              NOSEND="1"></TD></TR>
>          <TR>
>            <TD colSpan=2> <FONT color=#ffffff face=Arial
>              size=2><B>Industrial Science and Technology
>              Cooperation<BR> Conference and
Exhibition</B></FONT></TD></TR>
>          <TR>
>            <TD colSpan=2> <FONT color=#ffffff face=Arial
>              size=2><B>September 21 - 25, 2001<BR> Suzhou,
>              China</B></FONT><BR><BR></TD></TR></TBODY></TABLE></TD>
>      <TD bgColor=#000000 vAlign=top width="15%"><IMG border=0 height=122
>        src="http://www.apec2001.org/email/images/map.gif" width=160
>        NOSEND="1"> <FONT color=#ffffff face=Arial size=1>An hour's drive from
>        Shanghai, the biggest city in China</FONT> </TD></TR></TBODY></TABLE>
>  <TABLE align=center bgColor=#ffffff border=0 cellPadding=0 cellSpacing=0
>  width=580>
>    <TBODY>
>    <TR>
>      <TD colSpan=3><IMG border=0 height=7
>        src="http://www.apec2001.org/email/images/white-dot.gif" width=580
>        NOSEND="1"></TD></TR>
>    <TR>
>      <TD bgColor=#fff5e7 vAlign=top width="50%">
>        <TABLE align=center bgColor=#f8f4f8 border=0 cellPadding=2
cellSpacing=0
>        width="100%">
```

```
>          <TBODY>
>          <TR>
>            <TD align=middle bgColor=#b76b93><FONT color=#ffffff face=Arial
>              size=3><B>Who Should Attend</B></FONT></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Technology-oriented
>              companies who want to     demonstrate
advanced
>              technologies or to seek     joint
>              ventures</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Venture capitalists
and
>              other investors who     want to identify
>              promising high-tech     companies and
>              investment opportunities</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Entrepreneurs who are
>              seeking market     expansion to the
>              Asia-Pacific region</FONT></LI></TD></TR>
>          <TR>
>            <TD> </TD></TR></TBODY></TABLE>
>        <TABLE align=center border=0 cellPadding=0 cellSpacing=0 width="100%">
>          <TBODY>
>          <TR>
>            <TD><IMG border=0 height=5
>              src="http://www.apec2001.org/email/images/dot_apec.gif"
>              width="100%" NOSEND="1"></TD></TR></TBODY></TABLE>
>        <TABLE align=center bgColor=#eff8ee border=0 cellPadding=2
cellSpacing=0
>        width="100%">
>          <TBODY>
>          <TR>
>            <TD align=middle bgColor=#6ba763><FONT color=#ffffff face=Arial
>              size=3><B>Best Chance to Showcase
Technologies</B></FONT></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Exhibition &amp;
>              transaction of high technology &amp;
>                  hi-tech products.</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Bid for technological
>              cooperation.</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Discussions &amp;
>              negotiations on technological
    transaction
>              and cooperation.</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>APEC forum on science
>              and technology.</FONT></LI></TD></TR>
>          <TR>
>            <TD> </TD></TR></TBODY></TABLE>
>        <TABLE align=center border=0 cellPadding=0 cellSpacing=0 width="100%">
>          <TBODY>
>          <TR>
>            <TD><IMG border=0 height=5
>              src="http://www.apec2001.org/email/images/dot_apec.gif"
>              width="100%" NOSEND="1"></TD></TR></TBODY></TABLE>
>        <TABLE align=center bgColor=#fff5e7 border=0 cellPadding=2
cellSpacing=0
>        width="100%">
>          <TBODY>
>          <TR>
>            <TD align=middle bgColor=#ff6342><FONT color=#ffffff face=Arial
>              size=3><B>All the Opportunities!</B></FONT></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Technomart is endorsed
>              by APEC's 21     member economies that had a
>              combined     Gross Domestic Product of over
>              US$18 trillion     in 1999 and 43.85 percent
```

```
>              of global trade.</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>In Technomart III,
>              attendees included 1,000+     hi-tech
>              exhibitors and recorded 37,000 visitors.</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>In Technomart III,
over
>              5,000 business     negotiations occurred,
>              involving trade in     excess of about
US$ 100
>              million over the     course of the five-day
>              event.</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Direct connection to
>              China market.</FONT></LI></TD></TR>
>          <TR>
>            <TD> </TD></TR></TBODY></TABLE></TD>
>      <TD><IMG border=0 height="100%"
>        src="http://www.apec2001.org/email/images/dot_apec.gif" width=5
>        NOSEND="1"></TD>
>      <TD vAlign=top width="50%">
>        <TABLE align=center bgColor=#f0ffff border=0 cellPadding=2
cellSpacing=0
>        width="100%">
>          <TBODY>
>          <TR>
>            <TD align=middle bgColor=#4b87d7><FONT color=#ffffff face=Arial
>              size=3><B>Service Center</B></FONT></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Technomart
>              representation</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2><A
>              href="http://www.apec2001.org/apec_booth.asp">Exhibition Booth
>              &amp; Expense</A></FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Booth arrangements and
>              allocation</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial
>              size=2>Transportation</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2><A
>
href="http://www.apec2001.org/apec_hotel.asp">Hotels</A></FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Sourcing/manufacturers
>              visits</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>On-site public
relation
>              facilitation, media
>              coverage</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Collateral
>              translation</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Escort
>              interpretation</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Leisure touring in
>              Suzhou and its vacinities</FONT></LI></TD></TR>
>          <TR>
>            <TD> </TD></TR></TBODY></TABLE>
>        <TABLE align=center border=0 cellPadding=0 cellSpacing=0 width="100%">
```

```
>          <TBODY>
>          <TR>
>            <TD><IMG border=0 height=5
>              src="http://www.apec2001.org/email/images/dot_apec.gif"
>              width="100%" NOSEND="1"></TD></TR></TBODY></TABLE>
>        <TABLE align=center bgColor=#ffffef border=0 cellPadding=2
cellSpacing=0
>        width="100%">
>          <TBODY>
>          <TR>
>            <TD align=middle bgColor=#edb94d><FONT color=#ffffff face=Arial
>              size=3><B>Key Technological Areas</B></FONT></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial
>            size=2>Biotechnology</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Environmental and
>              cleaner production
>                technologies</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial
>            size=2>Communication</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Information
technologies
>              / electronics</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Advanced
>              materials</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial
>            size=2>Mechatronics</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial
>              size=2>Transportation</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Resource management
>              technology</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial
size=2>Energy</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Sustainable
>              agriculture</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Emergency preparedness
>              and climate
    prediction</FONT></LI></TD></TR>
>          <TR>
>            <TD>
>              <LI><FONT color=#000000 face=Arial size=2>Exploitation of
natural
>              resources</FONT></LI></TD></TR>
>          <TR>
>            <TD> </TD></TR></TBODY></TABLE></TD></TR></TBODY></TABLE>
>  <TABLE align=center bgColor=#ffffff border=0 cellPadding=2 cellSpacing=8
>  width=580>
>    <TBODY>
>    <TR>
>      <TD vAlign=top><IMG border=0
>        src="http://www.apec2001.org/email/images/yellow_square.gif"
>        NOSEND="1"> <FONT color=#000000 face=Arial size=2><B>For more
>        information about the upcoming APEC Technomart IV, please
>        visit:</B><BR><A
>
href="http://www.apec2001.org">http://www.apec2001.org</A></FONT></TD></TR>
>    <TR>
>      <TD vAlign=top><IMG border=0
```

```
>        src="http://www.apec2001.org/email/images/yellow_square.gif"
>        NOSEND="1"> <FONT color=#000000 face=Arial size=2><B>For
inquiring
>        a brochure, please visit:</B><BR><A
>
href="http://www.apec2001.org/apec_register.asp">http://www.apec2001.org/ape
c_register.asp</A></FONT></TD></TR>
>    <TR>
>      <TD vAlign=top><IMG border=0
>        src="http://www.apec2001.org/email/images/yellow_square.gif"
>        NOSEND="1"> <FONT color=#000000 face=Arial size=2><B>For
Technomart
>        IV services, please visit:</B><BR><A
>
href="http://www.apec2001.org/apec_serve.asp">http://www.apec2001.org/apec_s
erve.asp</A></FONT></TD></TR>
>    <TR>
>      <TD vAlign=top><IMG border=0
>        src="http://www.apec2001.org/email/images/yellow_square.gif"
>        NOSEND="1"> <FONT color=#000000 face=Arial size=2><B>For
exhibition
>        booth information, please visit:</B><BR><A
>
href="http://www.apec2001.org/apec_booth.asp">http://www.apec2001.org/apec_b
ooth.asp</A></FONT></TD></TR>
>    <TR>
>      <TD vAlign=top><IMG border=0
>        src="http://www.chinanusa.com/email/images/yellow_square.gif"
>        NOSEND="1"> <FONT color=#000000 face=Arial size=2><B>For on-line
>        registration information, please click:</B>  <A
>        href="http://www.apec2001.org/apec_registernow.asp"><IMG border=0
>        src="http://www.chinanusa.com/email/images/button.gif"
>        NOSEND="1"></A><br>
>
>        For further questions, please email us at <a
href="mailto:apec@CHINAnUSA.com">apec@CHINAnUSA.com</a> or call Jessica Pan
at (510) 497-8783.
>    </FONT></TD></TR>
></TBODY></TABLE><!--#footer-->
>  <TABLE align=center border=0 cellPadding=0 cellSpacing=0 width=580>
>    <TBODY>
>    <TR>
>      <TD>
>        <DIV align=center>
>        <HR SIZE=1>
>        </DIV></TD></TR>
>    <TR>
>      <TD>
>        <DIV align=center><FONT color=#000000 size=1><FONT
>        face=Arial>CHINAnUSA.com is proud to represent APEC Technomart IV
>        committee here in the US to work closely with you. It is our
pleasure to
>        assist you in every aspect for the most beneficial trade
>        show.<BR><BR>The past Technomart initiated trillions of
>        transactions.</FONT><A
href="http://www.apec2001.org/apec_registernow.asp"><FONT
>        face=Arial>Register today</FONT></A><FONT face=Arial>! <BR>We look
>        forward to your participation and seeing you in Suzhou,
>        China.<BR><BR>Authorized representative of APEC Technomart
>        IV<BR><BR>
>
><FONT color=black size=2><SPAN
class=458364700-24032001>Unsubscribe:</SPAN></FONT></FONT></FONT></DIV><DIV
align=center><FONT color=#000000><FONT face=Arial><FONT color=black><SPAN
class=458364700-24032001><FONT size=1>If you received this message in error
or wish to unsubscribe from this subject, just click here: </FONT><A
href=http://www.apec2001.org/unsub/unsubscribe.asp?mail_id=hfs3766100408855>
<FONT size=1></FONT><FONT size=1><U>Click here.</U></A></SPAN><br>Or you can
reply to this email with 'Unsubscribe' as subject
title.</FONT></FONT></FONT></FONT></FONT></DIV><DIV align=center><FONT
color=#000000><SPAN class=458364700-24032001><P><FONT size=1><FONT
color=black><FONT face=Arial><br>All trademarks are the<SPAN
class=458364700-24032001> </SPAN>property of their respective owners
(C)2001 All rights<SPAN class=458364700-24032001> </SPAN>reserved.
</FONT></FONT></FONT></P></SPAN></FONT><BR><BR></DIV></TD></TR></TBODY></TAB
LE></BLOCKQUOTE></BODY></HTML>
Thanks,Joel
```

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

April 2001

Original source file: hfsig.0104
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0104

1. [hfsig] IQ Direct Conversion Receivers using Soundcard!

```
From: Michael <Keller@gmx.de>
Date: Sat, 28 Apr 2001 20:30:04 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-9817-2001.04.28-13.45.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

Hi folks,

if there are still some people who like to experiment and heat the
solder iron and like to play with direct conversion receivers using
I/Q-mixers, there is a program on my website
<http://www.qsl.net/dl6iak>
which can do the 90° phaseshift and all the selection at the baseband.
i played around with two ne612 also with two sbl diode mixers, which are
much better. it works nice. on 40m you don't need a vfo, when using
7040.0 as XO and 48kHz sampling rate.
i will also add the possibility for upconverting next time.

73'
de Mike
(dl6iak)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

May 2001

Original source file: hfsig.0105
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0105

1. [hfsig] (None)

From: t02wz7Ujn@fastlane.net
Date: 06 May 01 11:36:47 AM
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-11324-2001.05.06-13.49.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/html

FREE VACATION!! ABSOLUTELY FREE!!


```
<!--
/* Font Definitions */
@font-face
{font-family:Verdana;
panose-1:2 11 6 4 3 5 4 4 2 4;
mso-font-charset:0;
mso-generic-font-family:swiss;
mso-font-pitch:variable;
mso-font-signature:647 0 0 0 159 0;}
/* Style Definitions */
p.MsoNormal, li.MsoNormal, div.MsoNormal
{mso-style-parent:"";
margin:0in;
margin-bottom:.0001pt;
mso-pagination:widow-orphan;
font-size:12.0pt;
font-family:"Times New Roman";
mso-fareast-font-family:"Times New Roman";}
a:link, span.MsoHyperlink
{color:blue;
text-decoration:underline;
text-underline:single;}
a:visited, span.MsoHyperlinkFollowed
{color:blue;
text-decoration:underline;
text-underline:single;}
p
{margin-right:0in;
mso-margin-top-alt:auto;
mso-margin-bottom-alt:auto;
margin-left:0in;
mso-pagination:widow-orphan;
font-size:12.0pt;
font-family:"Times New Roman";
mso-fareast-font-family:"Times New Roman";}
@page Section1
{size:8.5in 11.0in;
margin:1.0in 1.25in 1.0in 1.25in;
mso-header-margin:.5in;
mso-footer-margin:.5in;
mso-paper-source:0;}
div.Section1
{page:Section1;}
/* List Definitions */
@list l0
{mso-list-id:512961360;
mso-list-type:hybrid;
mso-list-template-ids:-1669546666 1109397644 1000791260 -1646337502 -1135857490 320244486 -965961736
-2017674288 -1786247906 -1254343418;}
ol
{margin-bottom:0in;}
ul
{margin-bottom:0in;}
-->
```


That's right. FREE!!

ABSOLUTELY FREE!!

3 Days

& 2 Nights for Two
(a $175.00 value)

Stay at national chain hotels such as:

Ramada - Sheraton - Holiday Inn - Radisson

Choose from over 20 prime vacation locations nationwide

as well as Mexico and Hawaii!

There is no catch. Just
sign up for Wholesale Long Distance Service through the MCI/WorldCom
Wholesale Digital Network. You save 20% to 50% on your long distance bill
each month and take a vacation for two, worth $175.00, on us!

Sound too good to be
true? Well, it's not . . . it's true!

YOU
SAVE 20% to 50% ON YOUR PHONE BILL EACH MONTH...

. . . and we send you on a three day, two night mini
vacation.

STOP PAYING RETAIL FOR
YOUR LONG DISTANCE SERVICE!!

Get Your Long Distance Service at Wholesale Rates!

Click here
to view and print form <http://www.premierldn.net/images4/vac_app.gif>

NOTE:
After the form loads on your screen, simply click the "print" button
on your browser, fill out the form and fax to 303-663-5452.

No monthly service charge and no installation fees (savings $3.95 -
$8.95 per month)

Charges 6 second increments, not
60 seconds (savings on
average of 27 seconds billing on every call)

Low intrastate rates (saving you money on expensive calls within
your own state)

Rates are the same every day and every hour - 6.9 cents! (saving you on expensive day rates of up to
25 cents per minute)

Add Toll free "800" service to existing lines or cell phones at no
additional installation charge or monthly fees and only 6.9 cents per
minute interstate.

Calling cards are available (16.5 cents per minute, 6-second increment
billing) with no NBS surcharges for your calls and no charge for the
card(s).

The bottom line: AT&T, Sprint, MCI/Worldcom retail bills will be
higher when all the charges are added. You can easily save $100, $200, or
more per year on your long distance bills, depending on your calling habits.

Click
here to view and print form <http://www.premierldn.net/images4/vac_app.gif>

NOTE:
After the form loads on your screen, simply click the "print"
button on your browser, fill out the form and fax to 303-663-5452.
(Federal regulations require your signature.)

Ask for your toll free number(s) on the form. Get a calling card if you wish.

Why not indulge
yourself with a free vacation?

Save money on your long distance phone bill.

It takes just a moment to sign up now.

You'll be glad you did!

@@@

This mailing is done by an independent marketing co.

We apologize if this message has reached you in error.

Save the Planet, Save the Trees! Advertise via Email.

No wasted paper! Delete with one simple keystroke!

Less refuse in our Dumps! This is the new way of the new
millennium

To be removed please email optout911@aol.com with the word
"remove" in the subject line.

@@@

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] (None)

From: Ke2Vdtteo@erols.com
Date: 06 May 01 2:00:32 PM
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-11337-2001.05.06-16.13.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/html

FREE VACATION!! ABSOLUTELY FREE!!

```
<!--
/* Font Definitions */
@font-face
{font-family:Verdana;
panose-1:2 11 6 4 3 5 4 4 2 4;
mso-font-charset:0;
mso-generic-font-family:swiss;
mso-font-pitch:variable;
mso-font-signature:647 0 0 0 159 0;}
/* Style Definitions */
p.MsoNormal, li.MsoNormal, div.MsoNormal
{mso-style-parent:"";
margin:0in;
margin-bottom:.0001pt;
mso-pagination:widow-orphan;
font-size:12.0pt;
font-family:"Times New Roman";
mso-fareast-font-family:"Times New Roman";}
a:link, span.MsoHyperlink
{color:blue;
text-decoration:underline;
text-underline:single;}
a:visited, span.MsoHyperlinkFollowed
{color:blue;
text-decoration:underline;
text-underline:single;}
p
{margin-right:0in;
mso-margin-top-alt:auto;
mso-margin-bottom-alt:auto;
margin-left:0in;
mso-pagination:widow-orphan;
font-size:12.0pt;
font-family:"Times New Roman";
mso-fareast-font-family:"Times New Roman";}
@page Section1
```

{size:8.5in 11.0in;
margin:1.0in 1.25in 1.0in 1.25in;
mso-header-margin:.5in;
mso-footer-margin:.5in;
mso-paper-source:0;}
div.Section1
{page:Section1;}
/* List Definitions */
@list l0
{mso-list-id:512961360;
mso-list-type:hybrid;
mso-list-template-ids:-1669546666 1109397644 1000791260 -1646337502 -1135857490 320244486 -965961736
-2017674288 -1786247906 -1254343418;}
ol
{margin-bottom:0in;}
ul
{margin-bottom:0in;}
-->

That's right. FREE!!

ABSOLUTELY FREE!!

3 Days
& 2 Nights for Two
(a $175.00 value)

Stay at national chain hotels such as:

Ramada - Sheraton - Holiday Inn - Radisson

Choose from over 20 prime vacation locations nationwide

as well as Mexico and Hawaii!

There is no catch. Just
sign up for Wholesale Long Distance Service through the MCI/WorldCom
Wholesale Digital Network. You save 20% to 50% on your long distance bill
each month and take a vacation for two, worth $175.00, on us!

Sound too good to be
true? Well, it's not . . . it's true!

YOU
SAVE 20% to 50% ON YOUR PHONE BILL EACH MONTH...

. . . and we send you on a three day, two night mini
vacation.

STOP PAYING RETAIL FOR
YOUR LONG DISTANCE SERVICE!!

Get Your Long Distance Service at Wholesale Rates!

Click here
to view and print form <http://www.premierldn.net/images4/vac_app.gif>

NOTE:
After the form loads on your screen, simply click the "print" button
on your browser, fill out the form and fax to 303-663-5452.

No monthly service charge and no installation fees (savings $3.95 -
$8.95 per month)

Charges 6 second increments, not
60 seconds (savings on
average of 27 seconds billing on every call)

Low intrastate rates (saving you money on expensive calls within
your own state)

Rates are the same every day and every hour - 6.9 cents! (saving you on expensive day rates of up to
25 cents per minute)

Add Toll free "800" service to existing lines or cell phones at no

additional installation charge or monthly fees and only 6.9 cents per
minute interstate.

Calling cards are available (16.5 cents per minute, 6-second increment
billing) with no NBS surcharges for your calls and no charge for the
card(s).

The bottom line: AT&T, Sprint, MCI/Worldcom retail bills will be
higher when all the charges are added. You can easily save $100, $200, or
more per year on your long distance bills, depending on your calling habits.

Click
here to view and print form <http://www.premierldn.net/images4/vac_app.gif>

NOTE:
After the form loads on your screen, simply click the "print"
button on your browser, fill out the form and fax to 303-663-5452.
(Federal regulations require your signature.)

Ask for your toll free number(s) on the form. Get a calling card if you wish.

Why not indulge
yourself with a free vacation?

Save money on your long distance phone bill.

It takes just a moment to sign up now.

You'll be glad you did!

@@

This mailing is done by an independent marketing co.

We apologize if this message has reached you in error.

Save the Planet, Save the Trees! Advertise via Email.

No wasted paper! Delete with one simple keystroke!

Less refuse in our Dumps! This is the new way of the new
millennium

To be removed please email optout911@aol.com with the word
"remove" in the subject line.

@@

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] re: FREE designCorporate logo,web,year end reports r design from Award winning design Firm / monthly payments

From: reyjiurj@yahoo.com
Date: 14 May 02 12:25:22 PM
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-12697-2001.05.14-15.31.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/html

Hey,

Here is the designers you need, these guy's are amassing, and cheap.They are giving
away a free corporate logo design to any one who buys a 10 page website for $ 5,000 us.
This could be a savings of up to $ 30,000 Don't worry they have excellent references
apparently their a high end firm, six years in the biz ,so call them up and ask them for
the free sample design. They won the award last year for best new entry on the internet,
and I know for a fact they have a monthly payment plan, like so cheap, totally interest free
so call them here's their number. 1-604- 623-4883

bye,
Dave

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] (None)

From: ko5r6k0o00o01@yahoo.com
Date: 22 May 24 5:21:48 AM
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-14045-2001.05.22-07.36.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/html

Educate yourself about everything you ever wanted to know !!!
Individually, these products often sell for as much as $100!!!

1. Satellite TV/RCA Dish Descrambler.

Our unique, complete plans for building your own home satellite TV descrambler. For access to a clear reception of pay TV signals on your home satellite dish! It does not require any additional equipment! Complete PC board template & instructions! This also includes a manual for accessing the RCA/DSS satellite dish to receive free pay channels. All the latest information for doing it right.

2. X-Ray Envelope Spray.

Have you ever wanted to read the contents of an envelope without opening it? Many government and other organizations use what is known as X-Ray Envelope Spray to do this! An envelope is sprayed with this secret chemical and it becomes translucent for a short period of time which allows the contents to be read without opening. Private supply houses sell small cans of this aerosol spray for up to $50 a can! The spray is actually a commonly available item found in major grocery and discount stores. No modification of the spray is needed, as it is ready to use as X-Ray Envelope Spray and sells for about $1.99 in retail stores!

3. How to Find Anyone and Obtain Unlisted Phone Numbers.

Tired of getting the wrong number? Stop looking! We can help! We'll show you how to get the unlisted phone number of anyone. No one can hide now! Simple. Skip tracers use these tricks. We also include everything you need to know about finding missing people or loved ones from the comfort of your home. Why pay money when you can do it yourself?

4. Radar Zapper.

This simply technique converts existing radar detectors into a device that will jam police radar. This device sends false readings back to the police radar! Works on virtually all detectors and easy to use!

5. Untraceable E-Mail.

How to send totally anonymous and untraceable E-mail. We're not talking about those generic Yahoo! accounts -- this is the real McCoy, anonymous email. Everything explained. Absolutely untraceable.

6. Underground Guide to Utility Meters.

The illustrated guide to gas, water & electric meters! We show you in detail methods many people use to stop, slow down, even reverse all three types! This underground manual is one of our most popular items! Complete illustrated techniques and easy to do. Shows how to defeat all major brands & models of gas, water & electric meters.

7. Scan-Tron Genius.

Here at last!! This very controversial report describes in detail how any student can easily defeat Scan-Tron test readers to pass a test even though he does not know the answer! This simple method will fool the scan reader into thinking your answered correctly! No tools needed. Completely tested. You won't believe how simple this method is!

8. Bad Credit Cleaning Manual.

Simple ways to restore your bad credit rating to A++. Don't pay a credit counselor good money to do what you can do yourself. Many methods presented here - some legal & some "not so legal". Wipe your slate clean from your own home. Get a fresh start.

9. Pass Drug Tests.

Don't use of drugs! However, many innocent people are victims of drug testing. Some over the counter medicine can trigger false results & cost you your job. Proven methods to beat drug tests.

We show you how to build a simple device that can fool the best! Protect yourself & your job, even if you don't use drugs.

10.Cable TV Decoders.

How to get cable TV and turn your converter box into "full service" mode. This is the latest and best way to gain access. Also, how to build your own "snooper stopper" for pennies. Prevents cable companies from spying on you.

11. Free Long Distance!

You can make long distance calls to other countries at no cost! The information in these reports explains everything you need to call other countries! Country codes, city codes, overseas sender codes! Call England, Germany, the UK, practically anywhere!

12. Dissolving Checks.

We show you in detail the "insufficient funds" checks scam used by people to obtain goods & cash without having any money in the account. Many people do not even use false ID's in pulling this scam off. Complete detailed instructions plus rare information on the famous "dissolving" checks. These checks "dissolve" after being chemically coated & deposited in the bank leaving no trace of the writer or account number. Not for illegal purposes. See how others do it.

13. Outsmart Lie Detector Tests.

Hundreds of thousands of people in this country are wrongfully fired or not hired simply because they did not pass the lie detector test even though they've done nothing wrong! Read drugless methods to help pass whether you are lying or not! A valuable tool for any job seeker. Don't be harassed by your employer ever again. Tested and proven.

14. Lock-picks & Lock-picking.

Why buy expensive lock-picks & pay for rip-off mail order locksmith courses? We'll show you how to make your own professional lock-picks. Exact detailed drawings & construction techniques! This is perhaps the easiest to understand course ever published on this hush-hush subject. You won't believe how easy it is to make these tools! We also show you how a basic lock works & how they are picked. This publication is complete with detailed drawings & illustrations.

ALL IN ONE!!! PREVIOUSLY SOLD FOR HUNDREDS!!! ORDER NOW!!!

That's 14 products, all for just $29.95 [shipping & handling included]. CA residents please add sales tax

We accept cash, personal checks, money orders and cashiers checks. You must include a primary and secondary E-mail address as we will be emailing you all the reports as soon as your payment is received.

Print the following form & mail it to:

Info 4 Edu Only
1300 N. Cahuenga Blvd # 362
Los Angeles, CA 90028

Please Print Clearly

Name: ____

Primary Email Address: ___________________________________

Secondary Email Address: _________________________________

Make your check payable to: Info 4 Edu Only

DISCLAIMER: Please note that this information is being provided for educational purposes only. The information itself is legal, while the usage of such information may be illegal. We do not advocate unauthorized use or theft of any services. If in doubt, check your local laws and act accordingly.
NOTE: All of the publications are Copyright 2001 by Info 4 Edu Only . We aggressively protect our copyrights and will seek prosecution of any website, web-master, web hosting service or anyone else that is in violation of US & International Copyright Laws.

@@
This mailing is done by an independent marketing co.
We apologize if this message has reached you in error.
Save the Planet, Save the Trees! Advertise via Email.
No wasted paper! Delete with one simple keystroke!
Less refuse in our Dumps! This is the new way of the new millennium

To be removed please email optmeout@aol.com with the word "remove" in the subject line.
@@
@@@@@@@@@@@@

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

June 2001

Original source file: hfsig.0106
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0106

1. [hfsig] Spatial coherence

From: Matt Ettus <matt@ettus.com>
Date: Mon, 11 Jun 2001 19:23:57 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-18104-2001.06.11-21.39.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anybody have any info or references on Spatial coherence in HF
channels? Has there been any work with modifying Watterson simulators
for multiple antennas?

Also, what is the maximum legal bandwidth of an HF Digital signal? Part
97 seems ambiguous when it says "no wider than a communication quality
voice signal". Can one legally transmit a 6kHz wide signal? AM is
still legal, after all.

Thanks
Matt

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] SCS PTIIe tnc and WinAPRS

From: RMJ1946@aol.com
Date: Tue, 19 Jun 2001 13:01:56 EDT
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-19344-2001.06.19-12.22.04--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings to all:

I am looking for an initialization script for a SCS PTIIe tnc with WinAPRS.
Does anyone have any information that subject. Please respond with an email
if you have a script and/or tnc settings for WinAPRS.

73
Dick

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: SCS PTIIe tnc and WinAPRS

From: "Hector Efren Mora A." <hmora@atenea.ucauca.edu.co>
Date: Tue, 19 Jun 2001 13:59:09 -0500 (COT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-19380-2001.06.19-14.23.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 19 Jun 2001 RMJ1946@aol.com wrote:

> Greetings to all:
>
> I am looking for an initialization script for a SCS PTIIe tnc with WinAPRS.
> Does anyone have any information that subject. Please respond with an email
> if you have a script and/or tnc settings for WinAPRS.
>
> 73
> Dick
>
> ---
> You are currently subscribed to hfsig as: hmora@ucauca.edu.co
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: SCS PTIIe tnc and WinAPRS

From: Ken Wickwire <kwick@mitre.org>
Date: Tue, 19 Jun 2001 15:30:30 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-19385-2001.06.19-14.54.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tried this a few months ago. Alas, according to SCS, ptcIIs don't
have right pkt format for APRS.

Ken

"Hector Efren Mora A." wrote:
>
> On Tue, 19 Jun 2001 RMJ1946@aol.com wrote:
>
> > Greetings to all:
> >
> > I am looking for an initialization script for a SCS PTIIe tnc with WinAPRS.
> > Does anyone have any information that subject. Please respond with an email
> > if you have a script and/or tnc settings for WinAPRS.
> >
> > 73
> > Dick
> >
> > ---
> > You are currently subscribed to hfsig as: hmora@ucauca.edu.co
> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
> >
>
> ---
> You are currently subscribed to hfsig as: KWICK@MITRE.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: SCS PTIIe tnc and WinAPRS

From: Jean-Marie Houle <houle.jean-marie@enter-net.com>
Date: Tue, 19 Jun 2001 16:27:37 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-19400-2001.06.19-15.47.45--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01-06-19 15:30, you wrote:
>Tried this a few months ago. Alas, according to SCS, ptcIIs don't
>have right pkt format for APRS.
>
>Ken
>
>"Hector Efren Mora A." wrote:
> >
> > On Tue, 19 Jun 2001 RMJ1946@aol.com wrote:
> >
> > > Greetings to all:
> > >
> > > I am looking for an initialization script for a SCS PTIIe tnc with
> > WinAPRS.
> > > Does anyone have any information that subject. Please respond with
> > an email
> > > if you have a script and/or tnc settings for WinAPRS.
> > >
> > > 73
> > > Dick
> > >

The SCS PTCIIe works with UIView32

--
Jean-Marie Houle
VE2AEY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] presque □ tout.

From: Gaston Sirois <gaston@shergw.usherb.ca>
Date: Wed, 20 Jun 2001 19:54:55 EST
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-19674-2001.06.20-20.41.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Deuxième année, Isabelle et Philippe n□ont pas voulu recevoir de rémunération hormis un défraiement. Les
 175 000 F correspondent aux emplois de maintenance (aide-comptable, ménage, coursier). La deuxième
année, l□embauche de quatre personnes se fait de la façon suivante :
assage de quatre annonces dans divers supports nationaux (Le Monde, Le Figaro, L□Express, Libération)
pour les postes suivants : développement, commercial, programme et informatique ;
ntretiens d□embauche menés par Isabelle, eu égard à ses compétences en psychologie ;
ous avons reçu quatre cent quarante-trois curriculum vitae ;
es salaires proposés se décomposent ainsi : le directeur du développement, Julien E.
[Attachment: unregasf.exe; image/gif; 91,648 bytes]
[Attachment: Structure-type.doc; application/octet-stream; 225,792 bytes]

7. [hfsig] Re: [hfsig] presque à tout. -- VIRUS

From: aherhld@iafrica.com
Date: Thu, 21 Jun 2001 07:45:20 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-19705-2001.06.21-01.08.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is a virus. Do not open the attached exe. NAV identified it as a flavour of the
W32.Magistr virus when I tested it.

Cheers,
Andries.

Andries Herholdt   aherhld@iafrica.co.za
Consulting in engineering software   tel/fax : ++ 27 12 654 8043
                                            cell :   ++ 27 82 825 9797

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re:_[hfsig]_presque_□_tout._--_VIRUS

From: Puawade Praties <oamaga13@yahoo.com>
Date: Thu, 21 Jun 2001 05:30:03 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-19719-2001.06.21-07.50.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

thank you

best regard
--- aherhld@iafrica.com wrote:
> This is a virus. Do not open the attached exe. NAV
> identified it as a flavour of the
> W32.Magistr virus when I tested it.
>
> Cheers,
> Andries.
>
>
>

> Andries Herholdt
> aherhld@iafrica.co.za
> Consulting in engineering software   tel/fax
> : ++ 27 12 654 8043
>   cell :
> ++ 27 82 825 9797
>

>
> ---
> You are currently subscribed to hfsig as:
> oamaga13@yahoo.com
> To unsubscribe send a blank email to
> leave-hfsig-4070F@lists.tapr.org
>

_____
Do You Yahoo!?
Get personalized email addresses from Yahoo! Mail
http://personal.mail.yahoo.com/

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] _____

From: J&L Borchardt <Borchardt@gglbbs.com>
Date: Wed, 27 Jun 2001 08:04:56 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-20735-2001.06.27-08.28.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

_____
[Attachment: NWREGSVR.EXE; image/gif; 31,232 bytes]

10. [hfsig] Re:

From: Frode Weierud <Frode.Weierud@cern.ch>
Date: Wed, 27 Jun 2001 15:35:57 +0200 (METDST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: J&L Borchardt <Borchardt@gglbbs.com>
Message-ID: <LYR4070-20737-2001.06.27-09.30.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 27 Jun 2001, J&L Borchardt wrote:

> Date: Wed, 27 Jun 2001 08:04:56 -0500
> From: J&L Borchardt <Borchardt@gglbbs.com>
> Reply-To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
> To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
> Subject: [hfsig]

Hi all,

This message seems to contain a virus so please don't open the attachment.
Instead of the GIF image it hides a binary file of 31232 bytes named:
NWREGSVR.EXE

It contains strings like Registry, DLL, Novell, Directory Server etc.
Highly suspicious.

Frode

Frode Weierud Phone : +41 22 7674794
CERN, SL, Fax : +41 22 7679185
CH-1211 Geneva 23, E-mail : Frode.Weierud@cern.ch
Switzerland WWW : http://home.cern.ch/frode/

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: _____

From: Bob Johnson <wb4jcm@garbonzo.hos.ufl.edu>
Date: Wed, 27 Jun 2001 14:46:50 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-20816-2001.06.27-14.07.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This looks like it's probably a virus.

- Bob

J&L Borchardt wrote:

> Name: NWREGSVR.EXE
> NWREGSVR.EXE Type: GIF Image (image/gif)
> Encoding: base64

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Re: _____

From: dubose@texas.net
Date: Wed, 27 Jun 2001 14:04:36 US/Central
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-20834-2001.06.27-14.25.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My business firewall stopped it (we do have some MS workstations on the LAN).
however, I don't worrk about that sort of thing as I run Linux here and at home.

Walt/K5YFW

> This looks like it's probably a virus.
>
> - Bob
>
> J&L Borchardt wrote:
>
> >   Name: NWREGSVR.EXE
> >   NWREGSVR.EXE   Type: GIF Image (image/gif)
> >   Encoding: base64
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] SCS PACTOR II protocol

From: "Patrick McVey" <mcveyp.MOHAVE@narbha.com>
Date: Wed, 27 Jun 2001 10:57:45 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-20910-2001.06.27-21.39.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can someone direct me to a discussion (list archives) about why SCS has cornered the PACTOR II protocol.
 It seems that HF digital was developed out in the open, ie public domain. How were they able to make
PACTOR II proprietary? And why doesn't another company, like Kantronics for example, compete with
another PACTOR II algorithm with equivalent speeds?
Patrick KC7AIR

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: SCS PACTOR II protocol

From: Bruno.-.KF6QDP@amsat.org
Date: Wed, 27 Jun 2001 20:32:55 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-20928-2001.06.27-22.53.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Patrick,

It's "proprietary" because they created it. PACTOR-II was *not*
developed as an "open protocol" and they are not the only ones to hold
on to their proprietary protocols. ... read-on:

There is CLOVER (owned by HAL), G-TOR (owned by Kantronics) and several
other commercial/military ones out there.

In other words, these protocols were developed as a "business", with
R&D money pumped into the research work. It's perfectly normal for these
companies to want to maximize their ROI (Return On Investment).

The business model is simple: As long as they can bring-in $$$, there is
no motivation to release the code/protocols to the public. For example, HAL

publishes the protocol on their website *but*, the do not permit anyone
to offer a non-HAL version of it. They spent a lot of $$$ developing it,
why should they "give it away"?

Now, PSK31, MT63, MFSK, all part of the new crop of "ham" waveforms",were
developed by hams for hams. There is no real business model behind them.
Thus, hams can freely use, adapt and improve on these protocols. As they
become more popular, more hams will adopt them and abandon the "brick
and mortar" systems. These in turn survive by offering their protocols
to commercial and military interests.

For example, the CLOVER-2000 waveform, which was developed from the
original CLOVER, is now being used for diplomatic traffic, maritime
traffic, HF-Email and many other applications throughout the world. It
is used to link Brazilian Air Force stations in the Amazon, provide
internet email access in the desert (via HF), and emergency
communications in many other countries.

This is HAL's *real* market: Users that are willing to pay for the
stability of a "proven" waveform. This market cannot afford to "beta
test" amateur waveforms and they are willing to pay for the time proven
products and waveforms.

73 de Bruno, KF6QDP/VE2EQ
Oceanside, California

PS. I don't work for Kantronics, HAL or SCS.... but I am in charge of
Systems Engineering for an HF OEM that integrates CLOVER-2000 and
MIL-STD-110A/B modems into highly automated HF systems on a global basis
;-)

On Wed, 27 Jun 2001 10:57:45 -0700
"Patrick McVey" <mcveyp.MOHAVE@narbha.com> wrote:

> Can someone direct me to a discussion (list archives) about why SCS has
cornered the PACTOR II protocol. It seems that HF digital was developed out in
the open, ie public domain. How were they able to make PACTOR II
proprietary? And why doesn't another company, like Kantronics for
example, compete with another PACTOR II algorithm with equivalent speeds?
> Patrick KC7AIR
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: SCS PACTOR II protocol

From: "MCGWIER ROBERT" <rwmcgwier@home.com>
Date: Thu, 28 Jun 2001 09:35:11 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21004-2001.06.28-08.55.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Because they invented it, have ownership and
have kept the details proprietary and made loads
of money with it.   This is their right.

----- Original Message -----
From: "Patrick McVey" <mcveyp.MOHAVE@narbha.com>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Wednesday, June 27, 2001 1:57 PM
Subject: [hfsig] SCS PACTOR II protocol

Can someone direct me to a discussion (list archives) about why SCS has
cornered the PACTOR II protocol. It seems that HF digital was developed out
in the open, ie public domain. How were they able to make PACTOR II
proprietary? And why doesn't another company, like Kantronics for example,
compete with another PACTOR II algorithm with equivalent speeds?
Patrick KC7AIR

You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: SCS PACTOR II protocol

From: Michael Keller <keller@gmx.de>
Date: Thu, 28 Jun 2001 16:26:34 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21020-2001.06.28-09.47.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

the best story about pactor II, these guys from SCS got the Horkheimer Award
in Germany
some years ago awarded by the german amateur radio club. the trophy is for
innovative technical advance in amateur radio.
the system is propriatary and not open for public. when asking some guys from
SCS for more details, they denied.
my questions.

now:
 where are the benefits for amateurradio, when the system is only plug and
play? thats more contraproductive, i guess.
 at all is pactor II an open language, as claimed by the regulations?

for God's sake, we have psk31, MFSK and other stuff free and open for
experimental purposes.

73'
Mike

MCGWIER ROBERT wrote:

> Because they invented it, have ownership and
> have kept the details proprietary and made loads
> of money with it.   This is their right.
>
> ----- Original Message -----
> From: "Patrick McVey" <mcveyp.MOHAVE@narbha.com>
> To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
> Sent: Wednesday, June 27, 2001 1:57 PM
> Subject: [hfsig] SCS PACTOR II protocol
>
> Can someone direct me to a discussion (list archives) about why SCS has
> cornered the PACTOR II protocol. It seems that HF digital was developed out
> in the open, ie public domain. How were they able to make PACTOR II
> proprietary? And why doesn't another company, like Kantronics for example,
> compete with another PACTOR II algorithm with equivalent speeds?
> Patrick KC7AIR
>
> ---
> You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> ---
> You are currently subscribed to hfsig as: keller@gmx.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] Re: SCS PACTOR II protocol

From: DuBose Walt Civ AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Thu, 28 Jun 2001 10:12:29 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21038-2001.06.28-10.33.03--lyris.hfsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Robert was working on a robust software modem. I have been hoping that he
might let us know what is going on with this as I think that using it in
conjunction with perhaps AX.25 or some other protocol would produce some
really robust high speen HF data throughput...perhaps in the order of
240-4800 BPS.

Walt/K5YFW

-----Original Message-----
From: Michael Keller [mailto:keller@gmx.de]
Sent: Thursday, June 28, 2001 9:27 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: SCS PACTOR II protocol

Hi,

the best story about pactor II, these guys from SCS got the Horkheimer Award
in Germany
some years ago awarded by the german amateur radio club. the trophy is for
innovative technical advance in amateur radio.
the system is propriatary and not open for public. when asking some guys
from
SCS for more details, they denied.
my questions.

now:
 where are the benefits for amateurradio, when the system is only plug and
play? thats more contraproductive, i guess.
 at all is pactor II an open language, as claimed by the regulations?

for God's sake, we have psk31, MFSK and other stuff free and open for
experimental purposes.

73'
Mike

MCGWIER ROBERT wrote:

> Because they invented it, have ownership and
> have kept the details proprietary and made loads
> of money with it.   This is their right.
>
> ----- Original Message -----
> From: "Patrick McVey" <mcveyp.MOHAVE@narbha.com>
> To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
> Sent: Wednesday, June 27, 2001 1:57 PM
> Subject: [hfsig] SCS PACTOR II protocol
>
> Can someone direct me to a discussion (list archives) about why SCS has
> cornered the PACTOR II protocol. It seems that HF digital was developed
out
> in the open, ie public domain. How were they able to make PACTOR II
> proprietary? And why doesn't another company, like Kantronics for example,
> compete with another PACTOR II algorithm with equivalent speeds?
> Patrick KC7AIR
>
> ---
> You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
> ---
> You are currently subscribed to hfsig as: keller@gmx.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] Re: SCS PACTOR II protocol

From: "Patrick McVey" <mcveyp.MOHAVE@narbha.com>
Date: Thu, 28 Jun 2001 08:50:35 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21066-2001.06.28-12.13.14--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bruno,
Thanks for the info. That's what I was looking for; info on the origin of PactorII and SCS involvement.
I agree, if you invent something, you should be allowed to "charge what the market will bear."
Patrick, KC7AIR
Kingman, AZ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] Re: SCS PACTOR II protocol

From: "Patrick McVey" <mcveyp.MOHAVE@narbha.com>
Date: Thu, 28 Jun 2001 08:57:39 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21069-2001.06.28-12.21.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm not faulting SCS for making money. I agree, if I were SCS, I would try to maximize the profit.
However, I didn't know a thing about the history, that's what I was trying to find out - that's why I
subscribe to hfsig so's I can become more informed about the technology. Thanks for the input on how
Pactor II came to be. Some of the other posts enlightened me about HF digital modes also.
Patrick, KC7AIR
Kingman, AZ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: SCS PACTOR II protocol

From: Charles Brain <chbrain@dircon.co.uk>
Date: Thu, 28 Jun 2001 18:19:10 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21075-2001.06.28-12.46.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Patrick McVey wrote:
the history, that's what I was trying to find out - that's why I subscribe to hfsig so's I can become
more informed about the
technology.

Hello Patrick,

I think one of the problems about this list is that a lot of this was discussed 5 or 6 years ago
and having discussed it people have moved on. We had some really good discussions in the early
days of the sig but things have been very quiet lately.

The real advances in HF comms these days are in the military sector. High speed 9k6
and faster modems. Robust waveforms, third generation ALE systems, HF / Internet connectivity
new data link layers to name a few. Getting TCP/IP connectivity working is a real hot topic
in military circles at present.

Amateur radio on the other hand seems to want cheap (P.C based) narrow band systems (500Hz or less)
with modest throughputs i.e a keyboard replacement for CW. There is nothing wrong in that but it
certainly
doesn't push my buttons.

Also the idea of connecting Ham Radio equipment up to fixed networks seems to fill some people with
horror.

Maybe a look in the archives may help.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] Re: SCS PACTOR II protocol

From: Hamish Moffatt <hamish@rising.com.au>
Date: Fri, 29 Jun 2001 23:37:42 +1000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21243-2001.06.29-08.58.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Jun 28, 2001 at 09:35:11AM -0400, MCGWIER ROBERT wrote:
> Because they invented it, have ownership and
> have kept the details proprietary and made loads
> of money with it.   This is their right.

Ten how can it be used legally on the HF bands? Doesn't the FCC
require public disclosure of modulation formats?

SCS can disclose it publically without loss if they have a patent.

Hamish

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

22. [hfsig] Re: SCS PACTOR II protocol

From: DuBose Walt Civ AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Fri, 29 Jun 2001 08:46:57 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21247-2001.06.29-09.07.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Not knowing for SURE, but I'm going to take a wild guess that the technical
specifications have been published, in fact, I think I have read it.
However,
the specification/description is intellectual property and therefore can be
copyrighted which I am sure that it is.

If this is true, then the holder for the copyright can license the use of
the technical specification/description by third parties.

If the specification/description is covered under a copyright, then this
information is available to the FCC and should cover any legal requirement
for the modem protocol to be published.

Walt

-----Original Message-----
From: Hamish Moffatt [mailto:hamish@rising.com.au]
Sent: Friday, June 29, 2001 8:38 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: SCS PACTOR II protocol

On Thu, Jun 28, 2001 at 09:35:11AM -0400, MCGWIER ROBERT wrote:
> Because they invented it, have ownership and
> have kept the details proprietary and made loads
> of money with it.   This is their right.

Then how can it be used legally on the HF bands? Doesn't the FCC
require public disclosure of modulation formats?

SCS can disclose it publically without loss if they have a patent.

Hamish

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] Re: SCS PACTOR II protocol

From: Alberto di Bene <dibene@usa.net>
Date: Fri, 29 Jun 2001 16:04:31 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21253-2001.06.29-09.27.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/html

DuBose Walt Civ AETC CONS/LGCA wrote:

[...]

If this is true, then the holder for the copyright can
license the use of the technical specification/description by third parties.

[...]

Would this legally preclude a personal use of those info ? I mean, suppose
someone writes a program for his own use,

based on those specifications, without obtaining any agreement with
the holders of the patent, would this be legally

prosecutable ?

And, additionally, suppose that program is distributed for free, not
for profit, is this still forbidden by the patent rules ?

And, being the holders of that patent Germans, the laws of which country
would apply ?

TNX for clarifications

73 Alberto I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Re: SCS PACTOR II protocol

From: DuBose Walt Civ AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Fri, 29 Jun 2001 09:20:04 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21259-2001.06.29-09.40.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I cannot speak for other countries; but, if it is copyright
protected, then you handle it like a
        book or software. Is it legal to copy a book or software and give
it to you friends without the
        author's permission? (In the U.S.A., NO) Can you make a copy for
yourself? (In the U.S.A yes)

        Copyrights and patients are as different as apples and oranges. I
only addresses copyright from
        an interlectual properity level as you would writing software or a
book.

-----Original Message-----
From: Alberto di Bene [mailto:dibene@usa.net]
Sent: Friday, June 29, 2001 9:05 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: SCS PACTOR II protocol

DuBose Walt Civ AETC CONS/LGCA wrote:

[...]
If this is true, then the holder for the copyright can license the use of
the technical specification/description by third parties.
[...]

Would this legally preclude a personal use of those info ? I mean, suppose
someone writes a program for his own use,
based on those specifications, without obtaining any agreement with the
holders of the patent, would this be legally
prosecutable ?

        I think this is Ok.

And, additionally, suppose that program is distributed for free, not for
profit, is this still forbidden by the patent rules ?

        It is prohibited in the U.S.A.

 And, being the holders of that patent Germans, the laws of which country
would apply ?

I am not aware of the copyright laws in Germany or international copyright laws.

Walt

TNX for clarifications

73 Alberto I2PHD
--- You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

25. [hfsig] Re: SCS PACTOR II protocol

From: "MCGWIER ROBERT" <rwmcgwier@home.com>
Date: Fri, 29 Jun 2001 10:29:56 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21262-2001.06.29-09.50.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

RE: [hfsig] Re: SCS PACTOR II protocolWalt:

They published the basic blueprint concerning PACTOR II in Digital Digest I believe but the implementation details, such as the exact format of the control blocks, the exact nature of the ARQ functions, etc. were left to the reader to discern on their own. It is a proprietary protocol. I do not know if in fact they have a copyright/patent that would prevent duplication of their work by on-the-air reverse engineering. Someone else would have to check this.

My own work has been dubbed intellectual property of my employer and I have been denied the right to release it. I gave them the right and they exercised it much to my chagrin.

Bob

----- Original Message -----
From: DuBose Walt Civ AETC CONS/LGCA
To: TAPR HF Special Interest Group
Sent: Friday, June 29, 2001 9:46 AM
Subject: [hfsig] Re: SCS PACTOR II protocol

Not knowing for SURE, but I'm going to take a wild guess that the technical specifications have been published, in fact, I think I have read it. However,

the specification/description is intellectual property and therefore can be copyrighted which I am sure that it is.

If this is true, then the holder for the copyright can license the use of the technical specification/description by third parties.

If the specification/description is covered under a copyright, then this information is available to the FCC and should cover any legal requirement for the modem protocol to be published.

Walt

-----Original Message-----
From: Hamish Moffatt [mailto:hamish@rising.com.au]
Sent: Friday, June 29, 2001 8:38 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: SCS PACTOR II protocol

On Thu, Jun 28, 2001 at 09:35:11AM -0400, MCGWIER ROBERT wrote:
> Because they invented it, have ownership and
> have kept the details proprietary and made loads
> of money with it. This is their right.

Then how can it be used legally on the HF bands? Doesn't the FCC require public disclosure of modulation formats?

SCS can disclose it publically without loss if they have a patent.

Hamish

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

26. [hfsig] Re: SCS PACTOR II protocol

From: Bruno.-.KF6QDP@amsat.org
Date: Fri, 29 Jun 2001 07:36:56 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21265-2001.06.29-09.57.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

SCS does disclose their waveforms and ARQ algorithms... so does HAL with
CLOVER. This satisfies the FCC requirements. However, these OEMs do not
permit third-parties developing and/or selling a compatible modem.

Can you create your own program to emulate these waveforms? If you have
the time and patience, yes... however, it would be "illegal" to
distribute it ($$$ or free). This is like the NAPSTER scenario -->
You are allowed to make a copy of a CD for your personal use, but if you
sell or give copies away, it is illegal.

Why would you want to spend all of that time to create a software
package to emulate PTC-II or CLOVER? It's much more economical to
simply buy the product. Now, if you wanted to illegally distribute the
program, then you have to be ready to accept the consequences ;-)

Bruno, KF6QDP/VE2EQ
Oceanside, California

On Fri, 29 Jun 2001 23:37:42 +1000
Hamish Moffatt <hamish@rising.com.au> wrote:

> On Thu, Jun 28, 2001 at 09:35:11AM -0400, MCGWIER ROBERT wrote:
> > Because they invented it, have ownership and
> > have kept the details proprietary and made loads
> > of money with it.   This is their right.
>
> Ten how can it be used legally on the HF bands? Doesn't the FCC
> require public disclosure of modulation formats?
>
> SCS can disclose it publically without loss if they have a patent.
>
> Hamish

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

27. [hfsig] Re: SCS PACTOR II protocol (and patents) <LYR3398-21259-2001.06.29-09.40.43--AHERHLD#IAFRICA.COM@lists.tapr.org>

From: aherhld@iafrica.com
Date: Fri, 29 Jun 2001 21:32:05 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21344-2001.06.29-16.53.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The wonderful thing about patents is that everyone gets to read them and mull them
over. When I was a callow youth with time to spend in the company library, some of
the ideas I came up with (for example improving the performance of bit-sync
algorithms in noise) were inspired by other people's patents. Not just side-stepping
them but spotting improvements and intellectual flaws and thereby developing new
ideas. Great fun.

Cheers.

Andries Herholdt   aherhld@iafrica.co.za
Consulting in engineering software   tel/fax : ++ 27 12 654 8043
                                            cell :   ++ 27 82 825 9797

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

28. [hfsig] Re: SCS PACTOR II protocol

From: Hamish Moffatt <hamish@rising.com.au>
Date: Sat, 30 Jun 2001 12:03:52 +1000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21384-2001.06.29-21.24.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, Jun 29, 2001 at 07:36:56AM -0700, Bruno-KF6QDP@amsat.org wrote:
> SCS does disclose their waveforms and ARQ algorithms... so does HAL with
> CLOVER. This satisfies the FCC requirements. However, these OEMs do not
> permit third-parties developing and/or selling a compatible modem.
>
> Can you create your own program to emulate these waveforms? If you have
> the time and patience, yes... however, it would be "illegal" to
> distribute it ($$$ or free). This is like the NAPSTER scenario -->
> You are allowed to make a copy of a CD for your personal use, but if you
> sell or give copies away, it is illegal.

Sorry, but this doesn't follow. If they publish the specifications,
and they are not patented, then you CAN use that to implement the
protocol. The specification is copyright but the protocol is not.

You couldn't write a "DIY furniture" book and prevent anyone from
selling furniture made to your plans. You can stop them selling
copies of your book though.

The protocol itself can only be protected by non-disclosure, and
by patent. If non-disclosure, then you can reverse engineer it.
(You probably can't buy the product and reverse engineer the
software inside it, because that would violate your license
agreement, though.) If it's protected by patent, then the manufacturer
must disclose all the details, but you can't build a product
from those details without their permission.

This is similar to some historic arguments about the copyright of the
APRS protocol. You can't copyright a protocol. You can copyright
the specification, and you can copyright the implementation,
but not the protocol itself. You can only protect that by patent.

Similarly, you can't copyright a term (like "PACTOR II" or "APRS")
either; if you want to protect it, you must trademark it.

Hamish, VK3SB

Disclaimer: I am not a lawyer nor an IP specialist.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

29. [hfsig] Re: SCS PACTOR II protocol

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Sat, 30 Jun 2001 21:16:09 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21418-2001.06.30-04.40.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hamish and everyone,

You might be interested to note that HAL offer what they call "P Mode" in
their equipment that runs CLOVER, and they claim it is compatible with
PACTOR.

That's an example of the protocol being reverse engineered or copied without
a licence, and they seem to have got away with it. There were several
licencees of what we now know as "Pactor I" but very few of Pactor II.

By the way, I trust that you now appreciate all the more the immense amount
of effort that goes into providing the Amateur world with totally FREE and
OPEN advanced digital modes, such as PSK31, MT63, Q15X25 and MFSK16.

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

July 2001

Original source file: hfsig.0107
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0107

1. [hfsig] Re: SCS PACTOR II protocol

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 3 Jul 2001 12:58:11 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21952-2001.07.03-08.06.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Copyright does not prevent anyone else designing, making
and selling a PACTOR II compatible modem. Copyright would
prevent you copying their PCB layout or firmware, but does not
stop you designing your own circuit or or writing your own code.
Trade marks may stop you describing it as "PACTOR II".

Although it's not true in all countries, in the UK it is legal to reverse-
engineer other people's products to the degree necessary for the
purpose of selling a compatible product. (You may be allowed
to do it for education, to write books, or for maintenance, but I'm
not so sure about those.) As I understand it's an explicit limitation
on the permissible extent of IPR protection in the UK as it is
required for proper competition in the market economy. (YMMV
in your locality).

If a company wants to sell replacement car doors they're entitled
to copy the bits necessary to interface to the original car. They
are also entitled to copy aspects of the style to make it match
the other doors. (I hear the EU is trying to change these rules but
the UK is resisting.)

Patents are another matter. But it's possible patents can be
worked round, or ignored if you can cite prior art or otherwise
can show it to have no merit. It's typical that only demodulators
get patents. (In compression algorithms it's the compressor
that gets patented, as in MP3 and GIF.) This may be as a result
of the way patents work as there's actually no real-world signals
input to the modulator, just arbitrary data. The real-world signals
come as distortion & interference into the demodulator. Usually
this means there are ways of demodulating differently.

Software itself cannot be patented. (The USA is trying to change
the world here, and appears to be succeeding.) But "algorithms"
are being patented as signal processing functions applied to
real-world data in some digital processing device. To embody
the invention requires (a) a hardware platform with interfaces
(eg. a PC and a receiver) and (b) the algorithm running.

A patent submission is public information; you can copy that info,
write text-books about it and describe it in any way you like, in
maths equations, pseudo-code or sourcecode. Because of this
there are cases where it is unwise to patent, and better to
protect knowledge by other means.

You're quite entitled to experiment with a patented invention.
As an amateur you're supposed to be doing experimentation.
It seems unlikely anyone could accuse a licenced amateur
of doing otherwise with an invention on ham bands. I'm sure that
G. Marconi did not persue hobbyists who used his wireless
inventions! (Although he battled with Telefunken.)

As software source sitting on a webserver does not implement
the invention, it is merely a tool for constructing it, I can't see any
problem with experimenters exchanging sourcecode they have
written themselves for a "patented" modem algorithm. In fact many
such signal-processing algorithms are exchanged between
universities, research and education establishments on the net
and you can download them if you want. Another example is the
MPEG-layer 3 encoder for which reference implementations
are available as free sourcecode as is required for it to be an
ISO standard but Fraunhofer & Thomson Consumer Electronics
hold patents on it; they require $$ for licences if used for certain
purposes in certain countries. Individuals who implement the
invention by running the code must abide by the rules in its use.

IANAL (But went to a lecture from the patents dept.)

Ant

Quick plug: http://www.marconicalling.com/
Behind the flash-4 it's stuffed full of Marconi archive material;
documents, images and sound, on the history of wireless
that has never before been so accessible to the public.
Not to be missed is the sound of 2MT Writtle calling CQ.
enjoy :-)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: SCS PACTOR II protocol

From: Bruno Haineault <bhaineault@home.com>
Date: Tue, 03 Jul 2001 07:13:34 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21966-2001.07.03-09.34.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony,

Your email was very informative. However, Patent and Copyright laws were
created to protect the rights of the inventors... not to let the public
"learn and clone" for free.

The main point I was trying to make is that "reverse engineering" a
patented and/or copyright product for personal use might be acceptable
and legal.
However, reverse engineering in order to "build" and "sell" a competing
product to others probably infringes laws in many countries.

Thus, you could technically create a Pactor-II emulator at home and
experiment with it as much as you like. However, if you give or sell
copies to others, then you will probably be in trouble with SCS as you
would be syphoning their revenues. Patent and Copyright laws were
created to protect the rights of the inventors... not to let the public
"learn and clone"

Ciao!

Bruno, KF6QDP/VE2EQ
Oceanside, California

PS. Thanks for the Marconi link... it was very interesting ;-)

On Tue, 3 Jul 2001 12:58:11 +0100
"Anthony N Martin" <Anthony.N.Martin@marconi.com> wrote:

> Copyright does not prevent anyone else designing, making
> and selling a PACTOR II compatible modem. Copyright would
> prevent you copying their PCB layout or firmware, but does not
> stop you designing your own circuit or or writing your own code.
> Trade marks may stop you describing it as "PACTOR II".
- - - snip - - -

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: SCS PACTOR II protocol

From: kf6qdp@amsat.org
Date: Tue, 03 Jul 2001 07:14:45 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21967-2001.07.03-09.35.25--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony,

Your email was very informative. However, Patent and Copyright laws were
created to protect the rights of the inventors... not to let the public
"learn and clone" for free.

The main point I was trying to make is that "reverse engineering" a
patented and/or copyright product for personal use might be acceptable
and legal.
However, reverse engineering in order to "build" and "sell" a competing

product to others probably infringes laws in many countries.

Thus, you could technically create a Pactor-II emulator at home and
experiment with it as much as you like. However, if you give or sell
copies to others, then you will probably be in trouble with SCS as you
would be syphoning their revenues. Patent and Copyright laws were
created to protect the rights of the inventors... not to let the public
"learn and clone"

Ciao!

Bruno, KF6QDP/VE2EQ
Oceanside, California

PS. Thanks for the Marconi link... it was very interesting ;-)

On Tue, 3 Jul 2001 12:58:11 +0100
"Anthony N Martin" <Anthony.N.Martin@marconi.com> wrote:

> Copyright does not prevent anyone else designing, making
> and selling a PACTOR II compatible modem. Copyright would
> prevent you copying their PCB layout or firmware, but does not
> stop you designing your own circuit or or writing your own code.
> Trade marks may stop you describing it as "PACTOR II".
- - - snip - - -

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: SCS PACTOR II protocol

From: Donald E Haselwood <dhaselwood@ij.net>
Date: Tue, 03 Jul 2001 11:32:41 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21976-2001.07.03-10.53.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Anthony,
>
>Your email was very informative. However, Patent and Copyright laws were
>created to protect the rights of the inventors... not to let the public
>"learn and clone" for free.
>

This is only partly correct. With patents, a government grants a monopoly
(for 17 years) on the invention *in return for publishing the details of
the invention*. The intention is to allow a monopoly (for a limited time
duration) in order to stimulate improvements and progress by disseminating
the information, thus allowing others to use that knowledge to come up
something better. The intention is indeed one of having the public "learn
for free." "Cloning for free" is a different matter, at least while the
patent is in effect.

As far as a *patent* is concerned there should be no need for reverse
engineering. A patent must reveal enough technical detail so that someone
"skilled in the art," as they say, could duplicate *what the patent
claims*. In practice there may be a combination of proprietary "art" and
patented "art" so that the knowledge of the patent doesn't quite cover what
is needed to clone the product. Proprietary art (i.e. kept secret) is not
protected, so if someone figures out a non-patented invention, then the
inventor is out-of-luck.

Thinking about PACTOR-II, there is a global aspect to amateur comm, and
patent law varies considerably between countries. In Latin America one has
to show commercial useage, or at least demonstrable "progress" after being
granted a patent, or the patent rights expire in a relatively short time.
Germany has a different process from the US of what is called "discovery"
in the patenting process. Japan has a combination of them...etc.

Regards,
Don, W4DH

>The main point I was trying to make is that "reverse engineering" a
>patented and/or copyright product for personal use might be acceptable
>and legal.
>However, reverse engineering in order to "build" and "sell" a competing
>product to others probably infringes laws in many countries.
>

>Thus, you could technically create a Pactor-II emulator at home and
>experiment with it as much as you like. However, if you give or sell
>copies to others, then you will probably be in trouble with SCS as you
>would be syphoning their revenues. Patent and Copyright laws were
>created to protect the rights of the inventors... not to let the public
>"learn and clone"
>
>Ciao!
>
>Bruno, KF6QDP/VE2EQ
>Oceanside, California
>
>PS. Thanks for the Marconi link... it was very interesting ;-)
>
>On Tue, 3 Jul 2001 12:58:11 +0100
>"Anthony N Martin" <Anthony.N.Martin@marconi.com> wrote:
>
>> Copyright does not prevent anyone else designing, making
>> and selling a PACTOR II compatible modem. Copyright would
>> prevent you copying their PCB layout or firmware, but does not
>> stop you designing your own circuit or or writing your own code.
>> Trade marks may stop you describing it as "PACTOR II".
>- - - snip - - -
>
>---
>You are currently subscribed to hfsig as: dhaselwood@ij.net
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: SCS PACTOR II protocol

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 3 Jul 2001 17:53:58 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-21987-2001.07.03-12.17.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Your email was very informative. However, Patent and Copyright laws were
> created to protect the rights of the inventors... not to let the public
> "learn and clone" for free.

Copyright is a bargain between commercial interests and the public.

It originally was created to help finance authors of printed works.
It was considered desirable to encourage more authors that they
be able to benefit financially from their work, and as they are paid
by royalties protection of "copying" was deemed the right tool.
Manufacturing physical copies being the revenue-earning activity.

It was intended to benefit both authors and the public. The public
give up some rights to do as they please with stuff they own
with the aim of encouraging more authors and more supply of
works of art to the public. In return the public keep some rights
to use & share the art they've paid for, including "fair use".

Copyright is a trade-off, a bargain, a deal.

Since those days it's been stretched far beyond the original
intent. Usually the public lost out in favour of commerce, and
with the DMCA the American public have now given up all
rights to own art.

If copyright is functioning "to protect" rather than for mutual
benefit then it's due for an overhaul.

I'm not encoraging anyone to clone PACTOR II. It's old.
Experiment and try to improve it if you like; I can't see as
the IPR would be as big an issue as people suggest.

We should be looking to import some of the new techniques from
GSM EDGE and 3G into HF, as we're lagging behind.

eg.

Turbocodes

The ability to mix blocks of different symbol rates, constellations
& coding rates in the stream

The ability to aquire & release spectrum depending on traffic and
channel conditions

The ability to merge signal information from all repeats of an ARQ
block to gain the SNR benefit.

Adaptive pre-correction of transmitter PAs for more faithful output
with less adjacent channel power and with less wasted heat.

To my knowledge these are things no-one is doing in HF. If you
want to experiment, go experiment with something new!

At the moment I'm doing spread-spectrum microwaves but
still keeping an eye on HF.

At the club level, it's hard to get anyone interested in packet
in the face of competition from the internet. We should be
doing 50kbits/s TCP/IP in a 25kHz UHF channel, but the club
stalwarts aren't interested in advancing the technology.

Ant

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: SCS PACTOR II protocol

From: mwheatle@trsystems.com
Date: Tue, 3 Jul 2001 15:24:06 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22007-2001.07.03-14.46.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> At the club level, it's hard to get anyone interested in packet
> in the face of competition from the internet. We should be
> doing 50kbits/s TCP/IP in a 25kHz UHF channel, but the club
> stalwarts aren't interested in advancing the technology.
>
> Ant
>
>

This sort of touches on a fundamental issue with amateur radio development
in general. We can develop newer faster modes but it seems to be a solution
looking for a problem. If I had a 50Kbit link just to other amateurs, what
would i do with it that i can't do more reliably, more privately, more
efficiently, over the internet? It's like trying to inspire the young
techies here at work to become hams by showing them how we can talk over
most of the city using a 2m handheld. They just stare and point at their
smaller, cheaper cell phone and say "so what, I can talk/send email to
anyone in the world, privately, about anything, anytime, in full duplex
mode".

It seems we should concentrate in areas that the commercial communications
world are not interested in because there is no financial interest. The
amateur activities that provide interest are things you can't do over the
internet or with commercial wireless services like contests, EME, weak
signal work, group rag chews on ssb, meteor scatter, etc, etc. If we are
just trying to create reliable high speed communications, we will always be
behind the curve of the commercial products/services.

moe

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: What to do with it.

From: Walt DuBose <dubose@texas.net>
Date: Tue, 03 Jul 2001 17:22:59 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22021-2001.07.03-17.44.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You asked "...what would I do with it..."

Please see my remarks below.

Recently, some emergency managers in Texas met at their regular
meeting to discuss common emergency management issues.

Not surprisingly, the flooding in Houston was the "hot" topic.

It is no news to anyone in Texas that Internet connectivity to Houston
and much of the surrounding area was nonexistent for 24-36 hours and
after that spotty in many areas and even 72 hours later, there was
still some Internet connectivity missing. Many "nodes" were
decimated and some are still not back up.

Additionally, many of the cellphone "cells" were decimated, especially
in the hardest hit areas and in those areas, emergency communications
was lacking. And not just the cellphones were lost; but, regular
telephone connectivity also was lost.

Much of the local government 800-900 MHz trunking capability was lost
or severely curtailed as well as local government VHF and UHF
communications as a result of the rain and flooding.

The Houston Emergency Operations Center had a VERY HARD time
getting communications out of the area to the state emergency
management offices as normal communications circuits were spotty or
nonexistent.

If it had not been for amateur radio communications; Houston might
still be in a "deep water."

mwheatle@trsystems.com wrote:
>
> >
> > At the club level, it's hard to get anyone interested in > > packet in the face of competition from
the internet. We
> > should be doing 50kbits/s TCP/IP in a 25kHz UHF channel, > > but the club stalwarts aren't
interested in advancing the > > technology.
> >
> > Ant

        I have to agree...who wants to run 1200 baud when
        high speed DSL and 56K modem service is available.
        Except when there are no telephone circuits to
        run this type of communications do you appreciate
        even the slow 1200 baud of AX.25.

        But, you don't have to...all it would take is a
        couple of thousand letters to the ARRL demanding
        that they push for higher speed capabilities. If
        you don't say you are unhappy, they are going to
        think you are happy.

        I have run 19.2 KBPS on 70 cm on a wide FM channel
        and it worked great...I know that 48 KBPS is possible
        and think we need to push for that as a minimum on
        VHF and UHF hambands.

        TAPR is working on a 900 MHz high speed node...if
        they had assurances that hams would support this
        project and would purchase the completed product,
        I feel sure the project would come to fruition much   faster.

        Well, since this is the HF Special Interest Group,
        What about HF. Again I will tell you that you
        support of groups like TAPR and the ARRL and   letting their staff
and board of directors know how
        you feel is necessary if we (hams) are to ever see   the type of
communications you want.

> >
> >

>
> This sort of touches on a fundamental issue with amateur
> radio development in general. We can develop newer faster > modes but it seems to be a solution looking for a problem. > If I had a 50Kbit link just to other amateurs, what would
> I do with it that i can't do more reliably, more privately, > more efficiently, over the internet? It's like trying to
> inspire the young techies here at work to become hams by
> showing them how we can talk over most of the city using a > 2m handheld. They just stare and point at their smaller,
> cheaper cell phone and say "so what, I can talk/send email > to anyone in the world, privately, about anything, anytime, > in full duplex mode".

        My cousin in Houston, when she got her E-Mail back,
        ask me how hard it was to get a ham license. The
        group she supports was without communications for
        three days and put at risk a number of individuals.

        So, where was the Internet, cellphones and the
        local telephone service? Certainly not available
        to my cousin.

>
> It seems we should concentrate in areas that the commercial > communications world are not interested in because there is > no financial interest. The amateur activities that provide > interest are things you can't do over the internet or with > commercial wireless services like contests, EME, weak
> signal work, group rag chews on ssb, meteor scatter, etc,
> etc. If we are just trying to create reliable high speed
> communications, we will always be behind the curve of the
> commercial products/services.

        Reevaluate what you said in light of the conditions
        existing in Houston a few weeks ago. All the things
        you mention are fun and in fact have application to
        providing emergency communications. Perhaps not the
        first line of emergency communications; but,   certainly worthy of consideration in some situations.

        The questions keeps arising..."How can we justify
        our hobby to the citizenry?" Mainly by providing
        emergency communications when needed as the hams in   the Houston area did.

        If my information is correct, and I believe that it
        is, then the local governments in Houston and the
        surrounding area have a new appreciation of ham
        radio.

        Walt/K5YFW
        San Antonio, Texas

>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: What to do with it.

From: Richard B Morrow <k5cnf1@juno.com>
Date: Tue, 3 Jul 2001 19:57:51 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22043-2001.07.03-20.41.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt you got that right, the idiots in San Patricio county think they
will have cell phones to handle hurricane emergencies with.

DUH!

Richard, K5CNF

_____
GET INTERNET ACCESS FROM JUNO!
Juno offers FREE or PREMIUM Internet access for less!
Join Juno today! For your FREE software, visit:
http://dl.www.juno.com/get/tagj.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: What to do with it.

From: Walt DuBose <dubose@texas.net>
Date: Tue, 03 Jul 2001 20:43:18 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22055-2001.07.03-21.04.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Richard, nice to hear you...

There are a few of us still left who remember Carla.

I don't know for SURE, but I've been told (hear say only) that the
Houston and/or Harris County EOC manager POed the local hams (in RACES
and ARES) and when the EOC needed help this time, they told him/them
where they could put it. Finally some MARS (Navy I think) bailed them
out.

Let me see if I can get you a E-report on the emergency managers
meeting. Slim change but I will try.

Also, looks like the CC EOC (manager) is trying but the hams who are
helping him are a little dense when it comes to passing traffic and
selecting a frequency to use. They shun HF when we know that it may
be the only venue to contact San Antonio/Austin on. They are STILL
trying to use a vertical antenna down at the EOC.

        -- wdd

Richard B Morrow wrote:
>
> Walt you got that right, the idiots in San Patricio county think they
> will have cell phones to handle hurricane emergencies with.
>
> DUH!
>
> Richard, K5CNF
> ____
> GET INTERNET ACCESS FROM JUNO!
> Juno offers FREE or PREMIUM Internet access for less!
> Join Juno today! For your FREE software, visit:
> http://dl.www.juno.com/get/tagj.
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

--

| SYSTEM CRASHES ARE NOT OPTIONAL. |
| They comes bundled with our software. |
| Microsoft |

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: What to do with it.

From: Walt DuBose <dubose@texas.net>
Date: Tue, 03 Jul 2001 21:47:32 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22061-2001.07.03-22.08.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

All,

One word of explanation about my previous message to Richard's
message. Richard and I go waaaaay back in the South Texas emergency
communications...when SSB was still new and CW was the cool way to
pass traffic. In the "old" days, there was great cooperation between
hams and the folks needing emergency communications. That's not
always the circumstance today.

One of the things that we have all seen is that agencies needing
emergency communications HAVE opted for cell phone use in lieu of ham
V/UHF or HF communications. We saw this in San Antonio for a while,
then a minor flood knocked out the primary cell that one of the

emergency response agencies was using. They, like Houston and other
emergency managers had POed the hams. Thankfully some more level
headed hams came to their rescue. Now that agency in
"back-in-the-fold".

As we see situations where there is a "bad attitude" by an emergency
response agency, and you fell like telling them where they can put
their requirement, suck it in and help; for doing that, you will get
more respect than not helping.

Most of you, I'm sure, feel this way as Richard and I do.

But one other point to remember is like in the case of the EOC manager
who has hams in his operation that are "unskilled" (or not as skilled
as WE think WE are), the key words is to WORK WITH THEM during an
emergency and get the communications passed. Trying to give training
or chewing them out while they are passing emergency traffic is
non-productive.

In our local Texas situation, the hams in San Antonio are willing to
help out our fellow hams along the coast. I know that most of you are
the same.

Whether we are using RTTY, AMTOR, Packet, CW, SSB, CLOVER, PACTOR,
etc. on HF, the key is to use what we have at the time to get the job
done.

You bet I would like a 4800 BPS robust data mode on HF, but it ain't
there yet and I'm going to use whatever mode I can to get my traffic
through. However, you must consider the capability of the individual
at the other end.

Ok, enough of my oped-ness and back to techie stuff. Please forgive
the use of the extra bandwidth.

Walt

Walt DuBose wrote:
>
> Hi Richard, nice to hear you...
>
> There are a few of us still left who remember Carla.
>
> I don't know for SURE, but I've been told (hear say only) that the
> Houston and/or Harris County EOC manager POed the local hams (in RACES
> and ARES) and when the EOC needed help this time, they told him/them
> where they could put it. Finally some MARS (Navy I think) bailed them
> out.
>
> Let me see if I can get you a E-report on the emergency managers
> meeting. Slim change but I will try.
>
> Also, looks like the CC EOC (manager) is trying but the hams who are
> helping him are a little dense when it comes to passing traffic and
> selecting a frequency to use. They shun HF when we know that it may
> be the only venue to contact San Antonio/Austin on. They are STILL
> trying to use a vertical antenna down at the EOC.
>
>   -- wdd
>
> Richard B Morrow wrote:
> >
> > Walt you got that right, the idiots in San Patricio county think they
> > will have cell phones to handle hurricane emergencies with.
> >
> > DUH!
> >
> > Richard, K5CNF
> > ____
> > GET INTERNET ACCESS FROM JUNO!
> > Juno offers FREE or PREMIUM Internet access for less!
> > Join Juno today! For your FREE software, visit:
> > http://dl.www.juno.com/get/tagj.
> >
> > ---

> > You are currently subscribed to hfsig as: dubose@texas.net
> > To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Federal Standard FS-1045A

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Wed, 4 Jul 2001 18:16:29 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22104-2001.07.04-01.42.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Folks,

I'm interested in the use of MFSK in an Amateur Radio environment, and would particularly like to see the development of an ARQ mode suited to passing pre-formatted emergency messages at the same time as operator chat and link management.

I know of several emergency comms organizations interested in a development like this. The application is 80/40m NVIS conditions, hence the interest in MFSK.

Does anybody have experience of FS-1045A? Any comments on the performance of this interesting MFSK mode? I'd like to see something like this developed for Windows/Sound Card use - perhaps a cut-down version that uses less bandwidth.

I realise there are newer fancier systems such as STANAG 4285, but I need something practical for an ordinary HF rig and an ordinary Windows PC.

Any comments? Any suggestions?

(You'll find FS-105A at http://www.its.bldrdoc.gov/fs-1045a/fs-1045a.htm)

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Re: Federal Standard FS-1045A

From: Leif Dehio <leif.dehio@munich.netsurf.de>
Date: Wed, 04 Jul 2001 09:40:40 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22107-2001.07.04-03.04.21--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 18:16 04.07.01 +1200, you wrote:

Hi Murray,

>Does anybody have experience of FS-1045A? Any comments on the performance of
>this interesting MFSK mode? I'd like to see something like this developed
>for Windows/Sound Card use - perhaps a cut-down version that uses less
>bandwidth.

Charles Brain made an excellent Windows based sound card interface
for MIL-STD 188-141A/FS-1045A available to us. Try the following link:

http://www.chbrain.dircon.co.uk/pcale.html

BRGDS

-- Leif --

+---+
| ******************** Leif Dehio ********************|
| Location: near Munich/Germany |
| e-mail : Leif.Dehio@munich.netsurf.de |

```
  | Web-page: http://rover.wiesbaden.netsurf.de/~signals  |
  | PGP-key : (v2.6.3i): 0x9B4992F9 on all key servers    |
  |           (v5.x & later): 0x0133BD80 on all servers   |
  +-------------------------------------------------------+


---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
```

13. [hfsig] Re: SCS PACTOR II protocol

From: Hamish Moffatt <hamish@rising.com.au>
Date: Wed, 4 Jul 2001 22:01:49 +1000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22116-2001.07.04-07.22.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, Jul 03, 2001 at 07:13:34AM -0700, Bruno Haineault wrote:
> Thus, you could technically create a Pactor-II emulator at home and
> experiment with it as much as you like. However, if you give or sell
> copies to others, then you will probably be in trouble with SCS as you
> would be syphoning their revenues. Patent and Copyright laws were
> created to protect the rights of the inventors... not to let the public
> "learn and clone"

Is there a patent for PACTOR II? If not then you may make a compatible
modem. You probably can't reverse engineer another product to do it,
though.

If there is a patent, you can't produce a compatible modem without
paying a license fee.

Copyright is not relevant here.

Hamish

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: Federal Standard FS-1045A

From: Walt DuBose <dubose@texas.net>
Date: Wed, 04 Jul 2001 09:57:22 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22146-2001.07.04-10.18.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Murray,

I have a couple of questions since my memory isn't as good as it used
to be.

What are the speed and robustness of MFSK vs MT63? I know that Johan,
KC7WW has that information on his web pages if I can find it again. I
DO understand that MT63 is wider...can be up to 2KHz...but that is Ok
in a commercial environment as I believe that all countries assign
channels for data based on the width of a voice channel..AND if it is
as with NATO co-use channels (voice or data on the same channel) they
certainly do this. I have been lead to believe that this "standard"
is quite common even for commercial assignments. I base this on my 11
year old experience in Europe, Africa, Korea, and Southwest Asia. I
have no experience in the Pacific area except in Korea.

Now all that said, I agree that higher speed and more robustness in
MFSK is certainly desirable. And especially the ability to "passing
pre-formatted emergency messages at the same time as operator chat and
link management." I have pushed for that for a number of years on
this SIG and other mail lists.

But another point that was brought up in my latest discussion with
emergency managers and some officials from emergency management
agencies in Central and South America was that they need a mode that
will easily send small binary files, typically 50K in size.

Additionally, I see a need to take "off-the-air" text and write it to
files in text format that complies with RFC 822 (and the other
applicable RFCs) so that SMTP (sendmail or similar) can route the data
through a NIC to the internet or other TCP/IP connection. A simple
piece of header information in a "prepared" text with routing

information can be stripped off on receipt if the final destination is
the Internet or other TCP/IP connection.

For U.S. hams, I remain firmly confident that the FCC will permit any
digital mode, regardless of how it appears on-the-air as long as it
fits within the same bandwidth of a normal SSB signal and second, is
adequately published. I say this because of several incidents where
it became imperative for hams to use commercial data modems that were
3 KHz wide and ran 4800 BPS. These were used for emergency
communications in connection with Hurricane Andrew. A call to the FCC
resulted in a letter (after the fact) to the agency using ham
communications acknowledging that this certainly was OK.

Additionally, I am firmly convinced that anything we do, mode wise,
that has a positive effect on the capability of hams to pass emergency
data on HF will be acceptable to the FCC and most other countries
controlling agencies.

Call me naive...but I would be greatly surprised if things are
different.

So, my bottom line is that I hope someone can do it and especially
provide a Linux version. I say this based on the fact that in Mexico
and several Central and South American countries, governmental
agencies are moving to the use of Linux in preference to other
operating systems. The same is true in Africa and many Pacific Rim
countries.

Walt/K5YFW

Coombe Down wrote:
>
> Folks,
>
> I'm interested in the use of MFSK in an Amateur Radio environment, and would
> particularly like to see the development of an ARQ mode suited to passing
> pre-formatted emergency messages at the same time as operator chat and link
> management.
>
> I know of several emergency comms organizations interested in a development
> like this. The application is 80/40m NVIS conditions, hence the interest in
> MFSK.
>
> Does anybody have experience of FS-1045A? Any comments on the performance of
> this interesting MFSK mode? I'd like to see something like this developed
> for Windows/Sound Card use - perhaps a cut-down version that uses less
> bandwidth.
>
> I realise there are newer fancier systems such as STANAG 4285, but I need
> something practical for an ordinary HF rig and an ordinary Windows PC.
>
> Any comments? Any suggestions?
>
> (You'll find FS-105A at http://www.its.bldrdoc.gov/fs-1045a/fs-1045a.htm)
>
> 73,
>
> Murray ZL1BPU
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

--

| SYSTEM CRASHES ARE NOT OPTIONAL. |
| They comes bundled with our software. |
| Microsoft |

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: What to do with it.

From: "Moe Wheatley" <ae4jy@mindspring.com>
Date: Wed, 4 Jul 2001 11:06:15 -0400

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22153-2001.07.04-10.35.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Walt,
I agree 100% with you with respect to the emergency use of amateur radio. It is what keeps us clinging by our fingernails to billions of dollars worth of spectrum and takes priority over all other amateur operations. My comments though are for the 99.99% of the time/spectrum that is not involved in major disasters. If every ham in the world was connected via a 4800bps RF link, I still don't know what kind of amateur data would fill this bandwidth up with that couldn't be better exchanged via the internet.

The issue of attracting new young amateurs is still a problem. The fact that my 45 year old bones are considered to be on the young side of the ham population curve should raise a lot of flags concerning the future of this hobby. There may be a lot of kids out there who will work to get a ham license just so they can participate in emergency operations or transfer a few files using their own radio but I wouldn't bet the future of the hobby on it. I still think we need to concentrate on modes/operations that the commercial world does not offer instead of trying to copy or improve upon existing commercial solutions.

But what do I know, I'm still wet behind the ears. ;>)
moe

> Reevaluate what you said in light of the conditions
> existing in Houston a few weeks ago. All the things
> you mention are fun and in fact have application to
> providing emergency communications. Perhaps not the
> first line of emergency communications; but, certainly worthy of
> consideration in some situations.
>
> The questions keeps arising..."How can we justify
> our hobby to the citizenry?" Mainly by providing
> emergency communications when needed as the hams in the Houston
> area did.
>
> If my information is correct, and I believe that it
> is, then the local governments in Houston and the
> surrounding area have a new appreciation of ham
> radio.
>
> Walt/K5YFW
> San Antonio, Texas
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] Re: Federal Standard FS-1045A

From: Ken Wickwire <kwick@mitre.org>
Date: Wed, 04 Jul 2001 16:27:30 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22162-2001.07.04-11.55.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Murray, all,

I published a paper in the ARRL/TAPR DCC 3-4 yrs ago on FS-1045 (not 45A) "MFSK" NVIS throughput.
(Here M=8.) It's quite low (ca. 7 char/s on avg.) but very robust, ALE having been designed
for robustness, not high throughput. Ken

BTW, since STANAG 4285 (unlike MS110A) can't do autobaud, it's not the best modem for adaptive HF.
Chas. Brain has a Windows/soundcard implementation of ALE.

Coombe Down wrote:
>
> Folks,
>
> I'm interested in the use of MFSK in an Amateur Radio environment, and would
> particularly like to see the development of an ARQ mode suited to passing

> pre-formatted emergency messages at the same time as operator chat and link
> management.
>
> I know of several emergency comms organizations interested in a development
> like this. The application is 80/40m NVIS conditions, hence the interest in
> MFSK.
>
> Does anybody have experience of FS-1045A? Any comments on the performance of
> this interesting MFSK mode? I'd like to see something like this developed
> for Windows/Sound Card use - perhaps a cut-down version that uses less
> bandwidth.
>
> I realise there are newer fancier systems such as STANAG 4285, but I need
> something practical for an ordinary HF rig and an ordinary Windows PC.
>
> Any comments? Any suggestions?
>
> (You'll find FS-105A at http://www.its.bldrdoc.gov/fs-1045a/fs-1045a.htm)
>
> 73,
>
> Murray ZL1BPU
>
> ---
> You are currently subscribed to hfsig as: KWICK@MITRE.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] Re: What to do with it.

From: Walt DuBose <dubose@texas.net>
Date: Wed, 04 Jul 2001 11:44:17 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22163-2001.07.04-12.04.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Moe, et al,

Moe Wheatley wrote:
>
> Hi Walt,
> I agree 100% with you with respect to the emergency use of amateur radio. It is
> what keeps us clinging by our fingernails to billions of dollars worth of
> spectrum and takes priority over all other amateur operations. My comments
> though are for the 99.99% of the time/spectrum that is not involved in major
> disasters. If every ham in the world was connected via a 4800bps RF link, I
> still don't know what kind of amateur data would fill this bandwidth up with
> that couldn't be better exchanged via the internet.
>

        Your point is well taken with reference to everyone using 4800 BPS...
        but if we can develop the capability, we can always scale it back and
        use say 1200 BPS for normal use.

        In the U.S. the amateur radio regulations say that we will use only
        the power necessary to maintain communications. So if I can hold a
        QSO with you with 100 watts on HF, then I do it and NOT run the full
        legal limit.

        The same here, you run 1200 BPS unless your are passing
traffic/messages.
        On PSK31 you always find some guy running 500 watts when 25 would do.
        With 4800 BPS capability, you would always find some individual(s)
running
        4800 BPS when 1200 would do.

        Don't punish the masses for the errors of the few when the overall
        benefit of 4800 BPS would come when passing traffic/message and
during
        emergencies when the controlling agency would most likely set aside
        channels to carry on emergency communications.

        There was an interview with a Broadway director and the reporter made
        a statement about his rehearsals and how hard they were. The
reporter
        said" Well, practice makes perfect." The director responded "Perfect

practice makes perfect."

The same applies here. When their is no Internet, or other commercial communications available, HF may be the only communications available.
Please see the July 2001 issue of "CQ", "Public Service, page 74. I think that this clearly shows that amateur communications are important even in what might not be considered an emergency but in a situation where normal communications provided insufficient to meet the needs of individuals and organizations.

> The issue of attracting new young amateurs is still a problem. The fact that my
> 45 year old bones are considered to be on the young side of the ham population
> curve should raise a lot of flags concerning the future of this hobby. There
> may be a lot of kids out there who will work to get a ham license just so they
> can participate in emergency operations or transfer a few files using their own
> radio but I wouldn't bet the future of the hobby on it. I still think we need
> to concentrate on modes/operations that the commercial world does not offer
> instead of trying to copy or improve upon existing commercial solutions.
>

This is in part true; however, I am associated with several school youth programs that are technology driven/intensive and the thing I hear from the youth is that ham radio is not keeping up with technology and the youth are interested in leading edge technology not necessarily bleeding edge technology. Most would like to be able to exchange messages with their peers via radio and not have to use a telephone line and modem.

> But what do I know, I'm still wet behind the ears. ;>)
> moe

I have yet to hear an totally invalid comment. So we need to keep considering all opinions and guide our creativity toward the needs of our customers and our own diversions as we pursue advancement of the communications arts.

Walt

>
> >
> > Reevaluate what you said in light of the conditions
> > existing in Houston a few weeks ago. All the things
> > you mention are fun and in fact have application to
> > providing emergency communications. Perhaps not the
> > first line of emergency communications; but, certainly worthy of
> > consideration in some situations.
> >
> > The questions keeps arising..."How can we justify
> > our hobby to the citizenry?" Mainly by providing
> > emergency communications when needed as the hams in the Houston
> > area did.
> >
> > If my information is correct, and I believe that it
> > is, then the local governments in Houston and the
> > surrounding area have a new appreciation of ham
> > radio.
> >
> > Walt/K5YFW
> > San Antonio, Texas
> >
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

--
```
----------------------------------------
|    SYSTEM CRASHES ARE NOT OPTIONAL.   |
| They comes bundled with our software. |
|               Microsoft               |
----------------------------------------
```

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

18. [hfsig] Re: Federal Standard FS-1045A

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 04 Jul 2001 18:14:53 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22166-2001.07.04-12.47.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ken Wickwire wrote:

> BTW, since STANAG 4285 (unlike MS110A) can't do autobaud, it's not the
> best modem for adaptive HF.

Yes, I have had to add an autobaud facility to my Linux 4285 implementation.

http://www.chbrain.dircon.co.uk/hfemail.html

I still haven't got a decent ARQ protocol for it. I started implementing
5066, realized how much work there was, decided that unless I was being paid to
do it it was not worth the effort. Also it is quite boring to implement.

AX.25 works a lot better than TCP/IP on HF.

Since writing the Web page I have managed to do some on air testing on 3.5/7/10Mhz
and am writing a paper on it at the moment for the DCC, unfortunately it looks as if
I maybe in Madrid the week of the DCC this year.

It is a real shame that MIL-STD 110B did not produce a single waveform that could
be used from 75 bps thru to 9k6 rather than having two different ones.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

19. [hfsig] TAPR Offices Moving; Short Closure and New Phone Numbers

From: "John R. Ackermann" <jra@febo.com>
Date: Wed, 04 Jul 2001 18:25:44 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22226-2001.07.04-17.52.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The TAPR offices will be moving a few miles from Denton to Richardson,
Texas. We'll be closing on July 26 for the move and re-opening on August
6. The Tucson mailing address will remain the same (it is a maildrop that
forwards to the real office address) but the phone numbers will change.
Effective August 6, they will be:

Voice: 972-671-TAPR (8277)
FAX: 972-671-8716

The office email address -- tapr@tapr.org -- will not change.

The move is occurring because Dorothy Jones, KA5DWR, our longtime Office
Manager, has decided to take a well-earned retirement. It would take a lot
of words to fully describe how much Dorothy has done for TAPR, and how much
we've all relied on her over the years, so I'll just say "Thanks!"

Our new office manager is Laura Koster (XYL of Board member John Koster,
W9DDD). Laura had a baptism of fire by handling the TAPR booth at the
Dayton Hamvention this year, and she did a great job. We're very happy to
have her on board, and we're sure that she will carry on Dorothy's goal of
providing great service to our members.

73,
John Ackermann   N8UR
President, TAPR
jra@febo.com -- n8ur@tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: What to do with it.

From: Richard B Morrow <k5cnf1@juno.com>
Date: Wed, 4 Jul 2001 21:23:55 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22261-2001.07.04-21.47.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Agin Walt!

To rub jalapeno in the wounds, I have heard that the local CB groups are boasting that they can do anything we can only with more people. Don't know how true this is, but they have louder horns to blow and everyone understands Children Band. Also no one say anything to me about getting my license after operating CB. I had my ticket BEFORE there ever was a CB. The problem is that we have not had any serious problems that took out the Cell and PCS sites. Trying to convince these Emergency groups is nigh impossible when they say that they can make a call anytime they want to. Yes they can, but that is because only a few of the estimated 20K people in Corpus are making calls at any time so the channels are not clogged, BUT with a storm.... and nearly all antennas for those services GONE, no way.

Only when it hits the fan and there is NO way to even call 2 miles will they get the message and then it will be too late. I will bet that there will be a real uproar if this happens, after the storm is over with people wanting answers as to why no communications. The next comment that one of the EC group leaders told some of the hams was, "If those antennas are gone, where will yours be?" When told that we can put up an antenna that will allow communications out to 400+ miles in about 10 minutes, that was also laughed at. I have no sympathy for these fools.

It reminded me of the big wheel with the Red Cross that came down here after one of the storms, think it was Celia and went out to inspect the Calallen area which is on the Nueces river or it flows through there. He gets out of the hams car he went with and started to wade to a house where the people were sitting on the front porch drinking something, and they yelled at him to not wade in the water and that they were ok. He said something about having to determine what they needed. So he gets in about 3 ft of water and tried to push a big log out of the way. Log was an alligator. Big wheel walked on water back to the car, went back to Red Cross HQ and never came out until he left.

Some people never listen. I know I sound rather harsh, but as anyone who has been in one can tell you, the hurricanes are no funny thing. I also have no patience for people who can tell you how it will be when they were not even born when the last one went through here.

By the way does anyone have a book for a PK-80? I need one as I have the TNC and no book.

73, Richard, K5CNF

_____
GET INTERNET ACCESS FROM JUNO!
Juno offers FREE or PREMIUM Internet access for less!
Join Juno today! For your FREE software, visit:
http://dl.www.juno.com/get/tagj.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] Re: Federal Standard FS-1045A

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 5 Jul 2001 18:31:25 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22320-2001.07.05-01.57.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ken,

Any chance of sending me a copy of your DCC paper?

I recognise FS-1045A is extremely robust and highly redundant, but I wondered if adapting the lower levels (especially the modulation and error correction) might have advantages for an emergency comms mode.

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

22. [hfsig] Re: Federal Standard FS-1045A

From: "Coombe Down" <coombedn@ihug.co.nz>
Date: Thu, 5 Jul 2001 18:13:53 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22321-2001.07.05-01.57.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Leif -

I never thought to ask Charles about that, although I have been chatrting
with him recently. Time to write to him again!

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] FWD: Possible use of hams as backup for Internet

From: Bob Johnson <wb4jcm@amsat.org>
Date: Thu, 05 Jul 2001 09:32:06 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22347-2001.07.05-08.52.48--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This showed up in the "SANS Newsbites" yesterday, a newsletter for the
Internet Security community. More about SANS is at http://www.sans.org

Given the recent exchanges on this list, perhaps a few of you would
like to get involved in this.

- Bob, WB4JCM
  wb4jcm@amsat.org

> Ham Radio Operators?
> The threat to critical Internet resources from distributed denial of
> service attack tools continues to increase. An effective emergency
> communications network may be of great value if damage is done to both
> the Internet and to phone systems. SANS is looking for ham and packet
> radio operators who are willing to take a leadership role to help
> establish and maintain an emergency communication channel. If you are
> qualified and interested please send an email telling us about your ham
> radio and computer security activities. Send it to info@sans.org with
> Emergency Communications Network in the subject line.
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Chebyshev window code

From: Edson Pereira <edson@fe.xdsl.ne.jp>
Date: Thu, 5 Jul 2001 13:44:14 +0000 (GMT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22350-2001.07.05-09.04.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

Does anyone have or know where I can find a C or C++ implementation for
the Chebyshev windowing function?

73 and thanks in advance,

-- Edson, pu1jte, n12vtn, 7n4ncl

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

25. [hfsig] Re: FWD: Possible use of hams as backup for Internet

From: Walt DuBose <dubose@texas.net>
Date: Thu, 05 Jul 2001 11:09:13 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22390-2001.07.05-11.30.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob...thanks so much...this is wonderful recognition. Please pass
this on the your ARRL section and/or division director.

Walt/K5YFW

Bob Johnson wrote:
>
> This showed up in the "SANS Newsbites" yesterday, a newsletter for the
> Internet Security community. More about SANS is at http://www.sans.org
>
> Given the recent exchanges on this list, perhaps a few of you would
> like to get involved in this.
>
> - Bob, WB4JCM
>   wb4jcm@amsat.org
>
> > Ham Radio Operators?
> > The threat to critical Internet resources from distributed denial of
> > service attack tools continues to increase. An effective emergency
> > communications network may be of great value if damage is done to both
> > the Internet and to phone systems. SANS is looking for ham and packet
> > radio operators who are willing to take a leadership role to help
> > establish and maintain an emergency communication channel. If you are
> > qualified and interested please send an email telling us about your ham
> > radio and computer security activities. Send it to info@sans.org with
> > Emergency Communications Network in the subject line.
> >
>
> ---
> You are currently subscribed to hfsig as: dubose@texas.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

--
```
----------------------------------------
|    SYSTEM CRASHES ARE NOT OPTIONAL.   |
| They comes bundled with our software. |
|               Microsoft               |
----------------------------------------
```

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

26. [hfsig] Chebyshev window code

From: "Thomas C. McDermott" <TCMcDermott@compuserve.com>
Date: Thu, 5 Jul 2001 19:27:42 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22436-2001.07.05-18.48.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I don't have C or C++ code, but show the basis functions, and have
an Excel spread sheet for computing the Dolph-Chebyshev function
from the TAPR book "Wireless Digital Communictions: Design and Theory".
The translation from the equations to C-code is very straight-forward.
Equation
5-4 is the generating function for D-C window:

 D(x) = cos [P arccos (cos (PI x) / cos (PiB/2))]

 B = bandwidth of main lobe
  x = normalized frequency (0..1)
  D = amplitude of the x-th point
  P = one less than the number of non-zero points in the impulse response.

For some help, to compute cos(x) when x is greater than one....

   cos(P arccos x) = cosh (P arccosh x)

-- Tom, N5EG

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

27. [hfsig] HF Digital Mode

From: Walt DuBose <dubose@texas.net>
Date: Fri, 06 Jul 2001 08:57:55 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22528-2001.07.06-09.18.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Could someone fill in the blanks for me for Q15X25? I am trying to
get this informaiton for a briefing I am preparing for our emergency
manager.

Hopefully my "briefing" will result in the emergency manager being
able to get us more equipment. (I am hoping that we can purchase
a TenTech Pegasus, Jupiter or SGC 2000.)

Thanks,

Walt/K5YFW/San Antonio, Texas USA

==========

Throughput for Software modems/protocols:

Mode	Bandwidth Hz	Band Conditions - Good/Poor WPM (Good)	WPM (Poor)
Q15X25			(NEEDED INFO)
MFSK16	316	80	80 (Is this correct?)
PSK31	60	50	50 (Sample)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

28. [hfsig] Re: HF Digital Mode

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 6 Jul 2001 08:55:56 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-22546-2001.07.06-11.16.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt,

I'm not sure we are comparing apples to apples, anyway, here are some
things you may want to consider to fill in the blanks:

Q15X25 is AX25 over a 15-tone (parallel) HF modem. Like HF packet, which
is based on CSMA (carrier sense multiple access,) throughput depends
not only on conditions, but how busy the channel is, i.e., how many nodes
are attempting to share the same frequency.

Just for comparison sake, assuming a good channel with only a pair (a
single transmitter and receiver), based on sending a file comprising say
5000 characters and taking the total time to deliver that message
(including protocol overheads, retransmission etc...), Q15X25 will deliver
between 10 - 80 cps (characters per second -- you can convert that to
WPM). The raw bit rate is in the order of 2500 bps (15 DQPSK carriers at
83.33 baud --- FEC reduces the raw rate to effectively 800 bps.) Spectral
occupancy is slightly more than 1875 Hz (15 carriers spaced at 125.)

Q15X25 is not adaptive; it was not designed to send more efficient data
streams when conditions allow. Tests on an HF channel simulator shown that
Q15X25 would be good down to about 4-8dB SNR on a CCIR POOR path, which
is a level where HF packet would be failing. PSK31 and MFSK16 would still
be solid print at that level.

If you are looking for a networking mode for HF, Q15X25 would be a candidate.
It's not a very nice "chat" mode, although we've had a bit of
fun on HF doing that too. If you are looking for the ultimate robustness

and weak signal work, I dont think it will stack up too well.

Hope that helps?

73,

Johan, KC7WW

> Could someone fill in the blanks for me for Q15X25? I am trying to
> get this informaiton for a briefing I am preparing for our emergency
> manager.
>
> Hopefully my "briefing" will result in the emergency manager being
> able to get us more equipment. (I am hoping that we can purchase
> a TenTech Pegasus, Jupiter or SGC 2000.)
>
> Thanks,
>
> Walt/K5YFW/San Antonio, Texas USA
>
>
>
> ===
> Throughput for Software modems/protocols:
>
>   Band Conditions - Good/Poor
> Mode Bandwidth Hz   WPM (Good)   WPM (Poor)
> Q15X25   (NEEDED INFO)
> MFSK16   316   80   80 (Is this correct?)
> PSK31 60   50   50 (Sample)
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

29. [hfsig] Re: SCS PACTOR II protocol

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Thu, 12 Jul 2001 12:53:42 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-23737-2001.07.12-08.05.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> This sort of touches on a fundamental issue with amateur radio
> development in general. We can develop newer faster modes
> but it seems to be a solution looking for a problem. If I had a
> 50Kbit link just to other amateurs, what would i do with it that i can't
> do more reliably, more privately, more efficiently, over the internet?

Hams used to be ahead of the game. They've slipped behind
what you can buy in the supermarket.

IMO this is precisely what needs fixing.

This has come about through "commoditization" of ham radio
rigs; you buy a 2m rig at the icom supermarket and it's just
"too difficult" to experiment with say 50kb/s QPSK. If I designed
a ham rig it would have general-purpose I-Q codec, a
stonking FPGA in the back and a firewire cable to a PC. Forget
the front panel and design the whole radio for mast mount.

I don't want it to turn into a hobby fanatical about operating
antiques. Give up on innovation and it will do. That may well
be a sustainable future though; there's a hell of a lot of
volunteers operating steam railways in the UK :-^)

> It's like trying to inspire the young techies here at work to become
> hams by showing them how we can talk over most of the city using
> a 2m handheld. They just stare and point at their smaller, cheaper
> cell phone and say "so what, I can talk/send email to anyone in the
> world, privately, about anything, anytime, in full duplex mode".

I think experimenting with broadband wireless network topologies
is something that is needed right now. ADSL and cable are not
reaching beyond urban areas. 3G will go there but won't offer
broadband rates. Myself I'm on the edge of a housing estate
only 5 miles from a major town centre and 25 miles from London,
yet no-one will sell me broadband internet. 60% of UK houses
will not get broadband internet.That needs fixing. I want it fixed.
And it seems like a prime target for ham radio experiments.

I think amateurs have a future deploying and operating networks
carrying public traffic where commercial profit interests have given
up. I know there are rules but the hobby is changing and rules are
being changed. It may mean a new class of spectrum or licence
for non-profit services.

I don't agree with Don Beattie, head of the RSGB who thinks that
the future of ham radio is in experiments in software-based signal
processing. This will remain the preserve of a few
mathematically-minded and software-literate radio-propagation
experts. The sort of people who subscribe to HFsig. If hams can't
build the black boxes and black boxes are cheap they can move
up a step and experiment with systems of black boxes.

Anyhow, this is going way OT for hfsig.

Isn't there a broadband packet sig or a GHz packet sig? There
should be - it seems odd to have HFsig which splits out a
frequency band & BW, and an SSsig which singles out a
modulation.

Ant

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

August 2001

Original source file: hfsig.0108
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0108

1. [hfsig] Clover 2.0a eprom software.

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 03 Aug 2001 17:36:47 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-27674-2001.08.03-12.13.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Folks,

I know this is a (very) long shot, but does anyone have a copy of the
S files etc that are compatible with version 2.0a of the Clover EPROMS.

I am selling off an old Clover board and need a set of working software,
I tried HAL but no luck yet. They are on version 3.0a EPROMS.

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: Clover 2.0a eprom software.

From: "Mel Whitten, K0PFX" <mel@mo.net>
Date: Fri, 3 Aug 2001 16:13:22 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-27746-2001.08.03-16.35.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

HI Charles,
I have an old clover board I have not used in several years, it may have
2.0a eprom software, I'll first have to find it, but if I do, refresh my
brain on what the "S" files are so I can look for those.
Mel
k0pfx

----- Original Message -----
From: "Charles Brain" <chbrain@dircon.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Friday, August 03, 2001 11:36 AM
Subject: [hfsig] Clover 2.0a eprom software.

> Hello Folks,
>
> I know this is a (very) long shot, but does anyone have a copy of the
> S files etc that are compatible with version 2.0a of the Clover EPROMS.
>
> I am selling off an old Clover board and need a set of working software,
> I tried HAL but no luck yet. They are on version 3.0a EPROMS.
>
> - Charles G4GUO
>
>
> ---
> You are currently subscribed to hfsig as: mel@mo.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: Clover 2.0a eprom software.

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sat, 04 Aug 2001 08:14:45 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-27853-2001.08.04-02.50.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Mel Whitten, K0PFX" wrote:
>

> HI Charles,
> I have an old clover board I have not used in several years, it may have
> 2.0a eprom software, I'll first have to find it, but if I do, refresh my
> brain on what the "S" files are so I can look for those.
> Mel
> k0pfx
>

Hello Mel,

Thanks for offering, but someone beat you to it! S record files are a Motorola ascii format used to download binary images to their processors for embedded systems. I used to use them a lot but things have moved on.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] DCC Papers Due

From: John Ackermann N8UR <jra@febo.com>
Date: Tue, 21 Aug 2001 11:46:13 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-31155-2001.08.21-11.09.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Although the deadline for submitting papers to the ARRL/TAPR Digital Communications Conference was officially August 6, we've arranged an extension to allow more folks to get their papers in.

So, papers for the DCC Proceedings may be submitted to Maty Weinberg (maty@arrl.org) at ARRL by close of business on Friday, August 24. There's still room in the book and a wee bit of time available to make additions, so please document your experiments, discoveries, proposals, and projects related to digital communications and make them a part of the DCC -- just do it quickly!

73,
John

John Ackermann N8UR jra@febo.com http://www.febo.com
President, TAPR n8ur@tapr.org http://www.tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] 2001 ARRL/TAPR DCC September 21-23, 2001

From: "Steven Bible" <n7hpr@tapr.org>
Date: Mon, 27 Aug 2001 23:04:36 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-32732-2001.08.28-01.24.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

2001 ARRL/TAPR Digital Communications Conference
Cincinnati, Ohio
September 21-23, 2001

- -
Hurry! Conference Room Rates end September 1st!
- -

DCC Schedule Highlights:

Friday
All Day APRS Seminar

Saturday
Technical Papers and Introductory Sessions
Banquet Speaker and Prize Drawing

Sunday - 5 Hour Seminar:
"Simulating Circuits and Systems with Serenade SV"
by Dave Newkirk, W9VES

- -

The 20th ARRL and TAPR Digital Communications Conference will be held
September 21-23 in Cincinnati, Ohio. The annual gathering provides an
international forum for radio amateurs involved in digital communication,
networking, and related technologies to meet, publish their work, and
present new ideas and techniques for discussion.

The DCC is for technically oriented amateurs of all experience levels to
exchange ideas and learn about recent hardware and software advances,
theories, experimental results, and practical applications.

Sessions at the beginner, intermediate, and advanced levels will be offered
in selected areas of digital communication. Topics include APRS, satellite
communication, TCP/IP, digital radio, spread spectrum and other introductory
topics. Two symposia/seminars will be held which allow those with additional
time and interest to make the most of the conference. For those who may have
interest in just one symposium or seminar, registration for the conference
is not required to attend these activities.

The DCC banquet is Saturday night. A guest speaker will speak after the
banquet and a prize drawing will top the evening. The Sunday morning seminar
topic has not yet been announced.

This year's fifth annual Automated Position Reporting System (APRS) National
Symposium will be an all-day Friday event moderated by Steve Dimse,
K4HG--the developer of javAPRS and www.findu.com. Possible attendees include
APRS software authors such as Bob Bruninga, WB4APR--the father of
APRS--Keith Sproul, WU2Z, and Mark Sproul, KB2ICI--the developers of MacAPRS
and WinAPRS--Brent Hildebrand, KH2Z--the developer of APRSPLUS, Mike Musick,
N0QBF--developer of PocketAPRS--and other nationally known APRS leaders.
This session will include in-depth discussions and presentations on the
status and future of APRS. It's a unique opportunity to gain insight into
this fast-paced aspect of digital operation that combines computers, packet
radio and GPS.

Local co-hosts for the 2001 ARRL and TAPR DCC are
Greater Cinti Amateur Radio Assn. http://w3.one.net/~rkuns/gcara.html
DIAL Radio Club http://www.qsl.net/w8blv/Miami
Valley FM Association http://www.mvfma.org/Southwest
Ohio Digital Symposium http://w3.one.net/~rkuns/swohdigi.html

Conference presentations, meetings, and seminars will be held at the Holiday
Inn Cincinnati--Airport and Conference Center
<http://www.basshotels.com/hotels/cvgap>; 859-371-2233. A special DCC room
rate of $89/single and $89/double per night has been blocked for 50 rooms
and is available until September 1. Once the 50 rooms have been reserved,
room rates will increase. The hotel provides transportation to and from the
Cincinnati/Northern Kentucky International Airport.

Full information, a registration form, and hotel information also may be
obtained by contacting Tucson Amateur Packet Radio, 972-671-TAPR (8277); fax
972-671-8716; e-mail: tapr@tapr.org.

Conference registration includes the conference Proceedings, sessions,
meetings, and lunch on Saturday. Registrations received before September 1
are $45. After September 1 or at the door, registration is $55. The banquet
is $30. The APRS National Symposium on Friday is $25. The Sunday seminar is
$20.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

September 2001

Original source file: hfsig.0109
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0109

1. [hfsig] BW0 - BW4

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 04 Sep 2001 11:04:05 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-34115-2001.09.04-05.33.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Gang,

Some of you may be interested in this link

http://wireless.nmsu.edu/hf/standards/MIL/MIL-STD-188-141B/

Appendix C contains the ARQ waveforms that will be used in the new
3G ALE system. They use code combining to produce an adaptive ARQ
scheme without the overheads of the bitrate negotiation of FS-1052 DLP.

The HDL does operate at 2400 baud and use equalization but a scaled down
version may give someone an idea for a new ham waveform. I remember Phil KA9Q
wrote about this technique many years ago (code combining).

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] FRG-7

From: Dominique FERRAND <dominique.ferrand@st.com>
Date: Tue, 04 Sep 2001 16:02:41 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-34128-2001.09.04-09.27.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bonjour

 Je suis a la recherche de schemas pour un preampli d'antenne et des
filtres
 pour le FRG-7 rescepteur de couverture generale 0.5 a 1.6 , 1.6 a 4 ,
4 a 11,
et 11 a 30
 MERCI 73 Dominique F6EPW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] RE: FRG-7

From: "Daniel VERDEIL" <dverdeil@ges.fr>
Date: Fri, 7 Sep 2001 10:32:19 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-34653-2001.09.07-04.06.05--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bonjour,

Nous accusons bonne reception de votre demande.

Nous vous invitons a nous contacter telephoniquement.

Cordialement.

Nous vous remercions de votre confiance et restons a votre disposition pour
toutes autres renseignements.

Daniel VERDEIL (F5DAN) G.E.S SAVIGNY 77 TEL: 01.64.41.78.88 FAX:
01.60.63.24.85

-----Message d'origine-----

De : bounce-hfsig-12268@lists.tapr.org
[mailto:bounce-hfsig-12268@lists.tapr.org]De la part de Dominique
FERRAND
Envoye : mardi 4 septembre 2001 16:03
A : TAPR HF Special Interest Group
Objet : [hfsig] FRG-7

Bonjour

Je suis a la recherche de schemas pour un preampli d'antenne et des
filtres
pour le FRG-7 rescepteur de couverture generale 0.5 a 1.6 , 1.6 a 4 ,
4 a 11,
et 11 a 30
MERCI 73 Dominique F6EPW

You are currently subscribed to hfsig as: fbergeret@ges.fr
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] DCC: Last chance for registration discount, and updated program info

From: John Ackermann N8UR <jra@febo.com>
Date: Fri, 07 Sep 2001 12:50:15 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-34724-2001.09.07-12.15.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The early registration discount for both the hotel room rate, and the
registration fee, expires on September 10, so you only have a couple more
days to get your reservations and registration made at the lowest price.
Registrations at the normal price will be available and at the door (of
course, hotel rooms will be subject to availability).

The DCC begins on Friday, September 20 and runs through Sunday, September
22. Full details are available at
http://www.tapr.org/tapr/html/Fdccconf.html.

A couple of updates on the program:

1. We're very happy that Anthony R. Curtis, Ph.D, K3RXK, will be our
speaker at the DCC banquet. Tony's presentation will be titled "40 Years
of Amateur Radio In Space: Where We've Been, Where We Are, and Where We're
Going."

2. We've confirmed that the Packet Radio Users Group (PRUG) of Tokyo,
Japan will be sponsoring a reception and talking about their latest
activities Friday evening. PRUG is really on the cutting edge of digital
radio, and their presentations are always fascinating.

3. We are also fortunate to have three great activities that focus on the
hardware and soldering-iron side of amateur radio:

* On Saturday, Jay Craswell, W0VNE, will do an introductory program on
using
CirCAD, a powerful schematic drawing/PCB layout program that's available
(in a
slightly limited form) for ham use at no cost.

* Also on Saturday, Ten-Tec's Gary Barbour, AC4DL, will be talking about
Software
Defined Radio development at Ten-Tec.

* Our "Sunday Seminar" will feature Dave Newkirk, W9VES, providing a
tutorial
on using the Serenade SV RF design software; this is another professional
package
with a free version available for ham use.

We hope to see you there!

John N8UR
President, TAPR

jra@febo.com -- n8ur@tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Correction to DCC Post

From: "John R. Ackermann" <jra@febo.com>
Date: Sat, 08 Sep 2001 20:22:57 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: mvarbb@febo.com, tawg-list@tawg.org
Message-ID: <LYR4070-34975-2001.09.08-19.48.14--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a previous email I incorrectly stated that the Circad schematic drawing
and PCB layout program is available for Ham use at no cost. I
misunderstood the relationship of the various versions.

There is a highly discounted version of the $995 Circad program available
at $295. This $295 version is available to Licensed Ham/Amateur Radio
Operators only. Check out http://dover.5u.com/ for more info on the Ham
Discount.

There is a demo version of Circad downloadable at http://www.holophase.com;
although that version can be used to draw small schematics and PCBs, it's
not a replacement for the full program.

I want to apologize to Holophase and to Jay Craswell for improperly
describing the versions of Circad, and to you for any confusion this may
have caused.

73,
John N8UR
President, TAPR
jra@febo.com -- n8ur@tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Digital Communications Conference Still On

From: John Ackermann N8UR <jra@febo.com>
Date: Thu, 13 Sep 2001 17:24:05 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-35918-2001.09.13-16.50.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

With the tragic events of this week, we've had to seriously consider
whether it was still appropriate or feasible to hold the Digital
Communications Conference next weekend (Sept. 20-22) in Cincinnati.
Although we grieve with the whole world for the losses so many have
suffered, we believe it's important to show that terrorism will not succeed
in making us change our way of life.

So, the DCC will go on. We realize that in light of the circumstances,
some folks who have already registered may feel they cannot attend. If
that is the case, please contact the TAPR office (tapr@tapr.org) and we
will arrange a refund of your registration fee. If you are traveling to
the DCC, remember that things may still be somewhat disrupted next week,
and increased security precautions will certainly cause some airport
delays. Check with your airline early and often to make sure they haven't
changed your plans for you.

We realize that this year's DCC may well be smaller, and will certainly be
more somber, than in past years. But we think that going ahead is the
right thing to do, and we hope that you agree.

73,
John

John Ackermann N8UR jra@febo.com http://www.febo.com
President, TAPR n8ur@tapr.org http://www.tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Digital Communications Conference -- Final Update

From: "John R. Ackermann" <jra@febo.com>
Date: Tue, 18 Sep 2001 19:32:34 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-37015-2001.09.18-18.57.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well, the Digital Communications Conference is only a few days away. If
you can make your way to Cincinnati, Ohio this weekend (Sept. 21-22) we
invite you to attend the show -- registration is available at the door.
Full details, including the current schedule, are available at
http://www.tapr.org/dcc.

Here's a brief rundown; note that due to the tragic events of last week,
we've had to make some adjustments to the schedule.

Friday:

Registration Opens	9:00AM	
APRS Forum		1:00 - 6:00PM (The morning part of the Forum has been cancelled.)
PRUG Social		7:00PM (Come enjoy the hospitality and see the latest activities of the Packet Radio Users Group of Tokyo, Japan.)

Saturday:

Registration Opens	7:15AM	
Main Program	8:00AM - 5:00PM	(There will be a mix of introductory sessions on new aspects of digital communication, as well as more advanced topics. We think there'll be something for everyone.)
TAPR Membership Meeting	5:00PM	
Banquet		7:00PM (Anthony Curtis, K3RXK will speak on "40 Years of Amateur Radio in Space.")

NOTE: We've regretfully had to cancel the Sunday Seminar. If you
registered for it, please stop at the registration area or contact TAPR to
arrange a refund.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

January 2002

Original source file: hfsig.0201
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0201

1. [hfsig] WET CAKE FREE UAYSZLWU

From: teeniesuckathhon3f42v4@msn.com
Date: Tue, 01 Jan 2002 08:31:23 -2000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-54490-2002.01.01-11.05.05--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/html

<http://209.132.208.47/orgasm/exit.html>

<http://209.132.208.47/orgasm/exit.html>

<http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/3D"http://209.132.208.47/orgasm/exit.html">
<http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/3D"http://209.132.208.47/orgasm/exit.html">

Do
not reply to this e-mail message

To be taken
off this list please go to the link below and enter your e-mail address.

"Under Bill s.1618 TITLE III passed by the 105th US Congress this
letter

cannot be considered Spam as long as the sender includes contact

information and a method of removal."

WE HONOR ALL REMOVES. PLEASE SUBMIT ONE EMAIL AT A TIME OTHERWISE YOU
WILL NOT BE REMOVED. PROFANITY SERVES NO PURPOSE.

Please allow
for 24-72 hours to be removed from this list.

TO BE TAKE N OFF THIS LIST CLICK HERE <http://202.22.41.19:21/superpromoter/remove.asp>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] ULTIMATE EXTACY 23448

From: lisa_eemeonline666@msn.com
Date: Wed, 30 Jan 2002 02:29:48 -2000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-59977-2002.01.30-02.57.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

F R E E F R E E F R E E F R E E
  F R E E F R E E F R E E F R E E
    F R E E F R E E F R E E F R E E

COME FUCK MY JUICY WET HOLE
http://cumageddon.com/?r=first&p=e

I WISH THIS BIG DILDO WAS REALLY YOUR HUGE COCK
http://hardcorepleasures.net/?r=second&p=e

I'M TIRES OF FINGERING MYSELF. I NEED YOUR HUGE COCK NOW.
http://smoothai.com/?r=third&p=e

F R E E F R E E F R E E F R E E
  F R E E F R E E F R E E F R E E
    F R E E F R E E F R E E F R E E
      F R E E F R E E F R E E F R E E

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] HFSIG set to Members Only

From: "Steven Bible" <n7hpr@tapr.org>
Date: Wed, 30 Jan 2002 08:15:38 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60025-2002.01.30-09.42.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Everyone,

In light of the SPAM, the HFSIG (as most TAPR lists) has been set to members
only submission. That means you can only send messages to the list from the
email you subscribed to the list.

Admin changes of your TAPR lists is easy from

  http://www.tapr.org/cgi-bin/lyris.pl?site=tapr

This link in on the TAPR home page as TAPR LISTS.

- Steve, N7HPR
  (n7hpr@tapr.org)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: HFSIG set to Members Only

From: "Adams" <wa8qzz@arrl.net>
Date: Wed, 30 Jan 2002 11:40:50 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60036-2002.01.30-11.11.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thank You
....Don wa8qzz
----- Original Message -----
From: Steven Bible <n7hpr@tapr.org>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Sent: Wednesday, January 30, 2002 10:15 AM
Subject: [hfsig] HFSIG set to Members Only

> Everyone,
>
> In light of the SPAM, the HFSIG (as most TAPR lists) has been set to
members
> only submission. That means you can only send messages to the list from
the
> email you subscribed to the list.
>
> Admin changes of your TAPR lists is easy from
>
>   http://www.tapr.org/cgi-bin/lyris.pl?site=tapr
>
> This link in on the TAPR home page as TAPR LISTS.
>
>
>
> - Steve, N7HPR
>   (n7hpr@tapr.org)
>
>
>
> ---
> You are currently subscribed to hfsig as: wa8qzz@arrl.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] RE: HFSIG set to Members Only

From: "Robert McGwier" <rwmcgwier@home.com>
Date: Wed, 30 Jan 2002 17:58:16 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60095-2002.01.30-17.28.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thank you very much.

Bob
N4HY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: HFSIG set to Members Only

From: du6lad@amsat.org
Date: Thu, 31 Jan 2002 07:18:01 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60097-2002.01.30-17.57.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mni tks Steve, we really appreciate it!   :-)

Have a nice day.

73 Lorbie DU6LAD   (ex-DU1CHD)

reply mailto:du6lad@amsat.org

DigiModes   : DU6LAD @ DU6LAD.WVIS.PHL.OC

Snail Mail : P.O. Box 27
              6116 Silay City, Negros Occidental
              Philippines

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] I Approve

From: rv9j@virgilio.it
Date: Thu, 31 Jan 2002 20:05:20 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60265-2002.01.31-13.36.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I Agree with inquiry of S. Bible
NO SPAM on hfsig techn. group
ONLY FOR MEMBERS!!!

Paul
RV9J@VIRGILIO.IT
I.E.E.E. P.Comm.W.Certificate

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Someone interested?????

From: rv9j@virgilio.it
Date: Thu, 31 Jan 2002 20:11:10 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60269-2002.01.31-13.42.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pls click as showed below
[Attachment: corsi Ansoft HF.doc; application/octet-stream; 78,848 bytes]

February 2002

Original source file: hfsig.0202
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0202

1. [hfsig] A virus?

From: Hank Greeb <hgreeb@one.net>
Date: Fri, 01 Feb 2002 08:36:20 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60457-2002.02.01-08.44.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does this SIG allow binary attachments? If so, should the policy be changed?

The following attachment, in encoded form, decodes into an executable file. My
latest McAfee Viruscan doesn't detect it as a virus, but I won't open it just
because so many virii are floating around.

Just because a message comes from a member, even a well respected member, is no
guarantee that it might not be a virus, because these strange viruses are
appearing so often.

for what its worth. 73 de n8xx Hg

rv9j@virgilio.it wrote:

> Subject: =?iso-8859-1?Q?Someone=20interested=3F=3F=3F=3F=3F?=
> From: rv9j@virgilio.it
> Date: Thu, 31 Jan 2002 20:11:10 +0100
> X-Message-Number: 2
>
> =========3C50D1AA0000A8E4/ims2b.cp.tin.it
> Content-Type: text/plain; charset="iso-8859-1"
> Content-Transfer-Encoding: quoted-printable
>
> Pls click as showed below
>
> --=========3C50D1AA0000A8E4/ims2b.cp.tin.it
> Content-Type: application/octet-stream
> Content-Transfer-Encoding: base64
> Content-Disposition: attachment; filename="corsi Ansoft HF.doc"
>
> 0M8R4KGxGuEAAAAAAAAAAAAAAAAAAAAAPgADAP7/CQAGAAAAAAAAAAAAAAACAAAAlQAAAAAAAAAA

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: A virus?

From: Brett Mueller <wa7v@digitalhams.com>
Date: Fri, 01 Feb 2002 07:25:42 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60464-2002.02.01-09.56.21--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FYI, I opened it in OpenOffice.org under Linux and it is indeed a document. I
cannot tell you what it says, however -- it's in italian. IMHO, I tend to
agree with Hank -- mailing lists are ordinarily not the place for binary
attachments, and *particularly* without some kind of explanation from the sender...

73,

Brett, WA7V

Hank Greeb wrote:

> Does this SIG allow binary attachments? If so, should the policy be changed?
>
> The following attachment, in encoded form, decodes into an executable file. My
> latest McAfee Viruscan doesn't detect it as a virus, but I won't open it just
> because so many virii are floating around.
>
> Just because a message comes from a member, even a well respected member, is no
> guarantee that it might not be a virus, because these strange viruses are
> appearing so often.
>
> for what its worth. 73 de n8xx Hg

>
> rv9j@virgilio.it wrote:
>>Subject: =?iso-8859-1?Q?Someone=20interested=3F=3F=3F=3F=3F?=
>>From: rv9j@virgilio.it
>>Date: Thu, 31 Jan 2002 20:11:10 +0100
>>X-Message-Number: 2
>>
>>==========3C50D1AA0000A8E4/ims2b.cp.tin.it
>>Content-Type: text/plain; charset="iso-8859-1"
>>Content-Transfer-Encoding: quoted-printable
>>
>>Pls click as showed below
>>
>>--==========3C50D1AA0000A8E4/ims2b.cp.tin.it
>>Content-Type: application/octet-stream
>>Content-Transfer-Encoding: base64
>>Content-Disposition: attachment; filename="corsi Ansoft HF.doc"

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] to all group (Re H.Greeb) NO VIRUS

From: rv9j@virgilio.it
Date: Fri, 1 Feb 2002 21:00:13 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60510-2002.02.01-14.30.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello
the file sent yesterday was referred to the courses HF Ansoft
that will start in the next days to the Ansoft in Rome (Italy)
Is there someone interested???
Regards

Paul

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] ANSOFT HF courses

From: rv9j@virgilio.it
Date: Sun, 3 Feb 2002 21:29:22 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60831-2002.02.03-15.00.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Corso introduttivo all'utilizzo di HFSS 12, 13 Febbraio 2002 Il corso, articolato
in due giorni, ha l'obbiettivo di fornire gli strumenti e la manualita necessarie
a impostare e risolvere nella maniera piu efficace possibile una simulazione
con l'ausilio di HFSS. Il corso e' completato da una serie di esercizi guidati
che prevedono la simulazione di strutture guidanti e sistemi di antenne.
Agenda: 1) Cenni sui metodi numerici in elettromagnetismo 2) Il flusso di
progettazione in HFSS 3) La simulazione delle strutture in guida d'onda
4) La simulazione di strutture in microstriscia 5) La simulazione delle
strutture radiative 6) Ottimizzazione ed analisi parametriche 7) Il linguaggio
macro La progettazione dei filtri con l'ausilio di strumenti CAD: dalle
specifiche funzionali alla prototipazione virtuale 18,19 Febbraio 2002 Il
corso, articolato in due giorni, ha l'obbiettivo di fornire gli strumenti
e la manualita necessarie a all'analisi ed alla sintesi di filtri con l'ausilio
di simulatori circuitali ed elettromagnetici. Il corso e completato da una
serie di esercizi pratici che prevedono la progettazione e l'ottimizzazione
di filtri in cavita ed a microstriscia. Agenda: none 1) analisi ed ottimizzazione
dei filtri cavita 2) analisi dei filtri in tecnologia planare 3) sintesi
dei filtri e simulazione circuitale 4) simulatori planari 5) simulatori
3D 6) sintesi di un filtro di Chebicev del 7 ordine Ansoft Corporation -
P.le Asia, 21 - 00144 RomaTel. 06 5916845 - Fax 06 54222623 - E-mail: italy@ansoft.com

Http://www.ansoft.com

RV9J@virgilio.it

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: ANSOFT HF courses

From: Alberto di Bene <dibene@usa.net>
Date: Sun, 03 Feb 2002 22:21:02 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60836-2002.02.03-15.51.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

rv9j@virgilio.it wrote:

> Corso introduttivo all'utilizzo di HFSS 12, 13 Febbraio 2002 Il corso, articolato
> in due giorni, ha l'obbiettivo di fornire gli strumenti e la manualita necessarie

How many on this list do you think can read Italian ? And how many of the few who
can, are interested in a course in Rome ?

73 Alberto I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: ANSOFT HF courses ... in Rome?

From: Bruno <kf6qdp@amsat.org>
Date: Sun, 03 Feb 2002 13:51:25 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-60838-2002.02.03-16.22.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sun, 03 Feb 2002 22:21:02 +0100
Alberto di Bene <dibene@usa.net> wrote:

> rv9j@virgilio.it wrote:
>
> > Corso introduttivo all'utilizzo di HFSS 12, 13 Febbraio 2002 Il corso, articolato
> > in due giorni, ha l'obbiettivo di fornire gli strumenti e la manualita necessarie
>
> How many on this list do you think can read Italian ? And how many of the few who
> can, are interested in a course in Rome ?
>
> 73 Alberto I2PHD

Alberto,

I was about to ask the same thing...

Ciao!

Bruno, KF6QDP/VE2EQ
Oceanside, California, USA
DM13ie

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: ANSOFT HF courses

From: Hank Greeb <hgreeb@one.net>
Date: Mon, 04 Feb 2002 08:41:45 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-61089-2002.02.04-08.13.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ladies and Gentlemen:

I believe this is a group which covers ham radio topics of an international flavor. Just
because most klutzes in the United States are ignorant enough to only know one language

is no reason to criticize a person who puts a message on this sig in another language.

In Europe and many other parts of the world anyone with a high school education knows at least one language other than their native tongue. The United States and some of the other "barbarian countries" are exceptions.

I specifically asked RV9J to put his message in plain text. If I were traveling to Rome on 12 and 13 February, I'd definitely look his course up, and thank him in person for his initiative.

73 de n8xx Hg

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: ANSOFT HF courses ... in Rome?

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 4 Feb 2002 15:20:09 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-61118-2002.02.04-09.58.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Note that this is not a course on HF by ANSOFT, or
anything to do with digital HF modes.

It is a course on using the HFSS software tool product
of ANSOFT (previously of Aligent and previously H.P.)

HFSS stands for High Frequency Structure Simulator,
a finite-element-analysis tool for simulating
electromagnetic behaviour of 3-D structures. That
includes antennae, cavity filters, etc. "HF" does not
imply shortwave; it's usually used for microwave
structures.

You could use it to simulate HF antennae; but I
doubt many would buy it for that. I'd have to ask
the experts to find out how it copes with lumped
elements as in a trapped-dipole. There are
probably more suitable (& cheaper) packages
for HF antenna design...

I don't know if there is a route for amateurs to get
access to HFSS; it is *very* expensive software.

I could forward your info to my Italian colleagues but
as they are ANSOFT customers I expect they've
already been direct-mailed and have their own
training arrangements already.

Ant, M1FDE

This e-mail and any attachments are confidential. If you are not the intended recipient, please notify us immediately by reply e-mail and then delete this message from your system. Do not copy this e-mail or any attachments, use the contents for any purpose, or disclose the contents to any other person: to do so could be a breach of confidence.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: ANSOFT HF courses ... in Rome?

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 5 Feb 2002 12:55:06 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-61292-2002.02.05-07.27.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> (BTW Anthony, as I remember when U joined this HFSIG a few years ago, I
> didn't think U had your amateur radio license. I see that you have it
now.
> If I'm incorrect excuse me. If not, congratulations.)

Very observant! Thanks. That's a "bands over 30MHz" license.

After helping to run the local amateur radio club for a year
it was embarassing being "SWL" and booked myself an exam :-)

Callsign came through about 2 weeks ago. I'm operational
on 2m mobile.

I'm looking to get connected to the TCP/IP packet, starting
at 9k6 and working up from there... It doesn't make much
sense buying in at 1200/AX25 when you can have 9600 TCP/IP
for the same or less money.

Hmm, must poke around on TAPR, perhaps there is more useful
info and groups for this. I'm looking for TCP/IP software
with as little AX25 stuff as possible as I might end up
porting it onto a PDA.

It has also not escaped my notice that the 50MHz and 70MHz
allocations are little used in the UK. They're poorly
supported by equipments & activity is on 2m. (Things might
change now there's a local 50MHz repeater with a huge
coverage area.) Yet the standard military VHF set covers
30-80MHz, and often has a 16kb/s FSK synchronous data
capability in 25kHz channels. Interesting possibilities.
A 50MHz 16kb/s node on the hill has a lot going for it.

If the UK Army Bowman project does not foul up again,
we might see a significant number of ex-army VHF sets in
the not-too-distant future. Although 20 years old, they
are fully synthesised, and suitable for 50MHz & 70MHz
amateur FM channelised operation as-is. Ideal as there
are no commercial rigs for these bands to speak of.

In the club meeting this evening we have a talk & demo
of PSK31. A deck of CD-Rs have been prepared with
everything to do PSK31 and lots of other digital modes.
We tested the software on various PCs; we wanted no
problems and simple installs on most recent Win32
platforms and we needed easy installers. Most club
members, although very experienced HF users, don't have
great computer skills. WinPSK and it's sister WinPSKse
ran fine on anything I could throw at it.

Ant, M1FDE

As I think this is general interest I think I'll
copy it back to the group.

This e-mail and any attachments are confidential. If you are not the intended recipient, please notify
us immediately by reply e-mail and then delete this message from your system. Do not copy this e-mail or
 any attachments, use the contents for any purpose, or disclose the contents to any other person: to do
so could be a breach of confidence.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] to all group

From: rv9j@virgilio.it
Date: Wed, 6 Feb 2002 19:40:34 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-61464-2002.02.06-13.11.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm sorry,
but i received the original message in Italian Language and
I sent you directly without translating it in English.
Regards

Paul

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] about Courses...

From: rv9j@virgilio.it
Date: Thu, 7 Feb 2002 00:31:26 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-61520-2002.02.06-18.16.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The message sent to the SIG was addressed to the members
(Engin.) interested in the use of HFSS Ansoft.
Regards

Paul

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Fwd: [psk31] Pactor 3?

From: Eduardo Jacob <edu@kender.es>
Date: Wed, 13 Feb 2002 23:15:26 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-62865-2002.02.13-16.46.45--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

An interesting post from Peter Martinez in the PSK31 mailling list

Eduardo/EA2BAJ

>>>>>>>>

>Date: Wed, 13 Feb 2002 19:34:41 +0000
>From: Peter Martinez <Peter.Martinez@btinternet.com>
>To: PSK31 <psk31@bipt106.bi.ehu.es>
>Subject: [psk31] Pactor 3?
> >From Peter G3PLX:
>
>Traditionally, the HF amateur bands have been divided into SSB/voice at
>the top end and CW/digital at the bottom. In the early days this was
>probably done so that operators on the different modes could find each
>other easily. By co-incidence, it's always been the case that SSB is
>about 3 kHz wide and CW/digital modes have always been much narrower.
>The popularity of PSK31, as the narrowest of the digital modes, has
>re-inforced this idea that digital modes are narrow. Nowadays the
>separation between voice and digital modes is not so much about
>concentrating activity where it can easily be found, but serves the
>purpose of minimising the interference which would be inevitable if
>modes of different widths were constrained to share the same part of the
>bands. However, the way things are at the moment, the wording of the
>bandplans is such that the division is between voice and digital, not
>between wide and narrow.
>
>But what would happen if a digital mode became popular which was as wide
>as an SSB signal. The present bandplan rules would insist that such a
>mode operated in the digital sub-bands rather than the voice sub-bands.
>Is this reasonable? There's a good case for saying that we would want
>to separate two modes, not because one is voice and the other is
>digital, but because one is wide and the other is narrow. Put another
>way, for the purpose of promoting peaceful co-existence between groups
>of people who have to share the spectrum with each other, it makes sense
>to have modes of similar bandwidth sharing. What interference there is
>will be mutual and can therefore be minimised best by co-operation.
>Forcing wide and narrow modes to share the same space would result in
>interference which was NOT mutual and thus cause conflict.
>
>This isn't a new idea. It works very well at the moment for SSTV sharing
>with SSB. What I am going to suggest is that maybe there's a good case
>for a change of emphasis, so that wide-band digital modes ALSO share
>with SSB rather than with existing digital modes.

>
>Yes, all very well I hear you say, but is it likely that wide-band
>digital modes might become popular? I don't know, but I want to
>stimulate the debate because of signals I have been hearing recently on
>the 80m band here in Europe. The signals I am hearing (in the digital
>part of the band), are 2.4kHz wide. They consists of up to 18 separate
>100-baud PSK signals spaced 133Hz apart, with the two stations
>transmitting alternate long/wide and short/narrow bursts in an ARQ
>format. The number of tones, and hence the occupied bandwidth, changes
>dynamically, presumably dependent on the band conditions at the time.
>These are amateur signals, not commercial, and I recognise the callsigns
>of the stations doing the experiments. They are associated with a
>well-known manufacturer of digital radio equipment. It would only take
>a marketting campaign by the company, and a firmware upgrade, and there
>could be hundreds of such signals on the amateur bands. A quick
>calculation shows that they could be transmitting up to about 3000
>bits/sec of data, so it's going to be the message-handling people that
>are likely to to go for this mode for unattended working.
>
>What do we think? Should this kind of SSB-width digital mode share with
>the present narrow-band digital modes? Should it share with SSB? If we
>debate this now and share our views with the rest of the amateur
>community, we can help those who may wish to promote such modes to
>choose the best place for their activity.
>
>73
>Peter G3PLX
>____
>Keep in mind that only registered email addresses can post in the list.
>Psk31 WWW Site at http://aintel.bi.ehu.es/psk31.html
>Psk31 list info at: http://aintel.bi.ehu.es/mailman/listinfo/psk31

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Mil Std 188-110-A1

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Fri, 15 Feb 2002 07:25:16 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63190-2002.02.15-06.56.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This morning, I heard Mil Std 188-110-A1 on 20 meters in
14.070 covering up the entire PSK band. One thing is clear.
This will never be an acceptable mode for this band ever.

I have recorded the cuts as I was not able to get my
demodulator up and running in time. I will see what I can
see when I demodulate and report here.

Bob
N4HY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] RE: Mil Std 188-110-A1

From: DuBose Walt Civ AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Fri, 15 Feb 2002 08:41:03 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63213-2002.02.15-09.12.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert, et. al.,

I am 100% in agreement...you don't use a wide more in an segment that is
KNOW to have narrow operation...just isn't the polite thing to do...its not
the HAM thing to do.

But I have to wonder, based on several things the least of which is the need
for hams to support contingency communications, if we don't need to
seriously consider a place for wide bandwidth data transmissions.

Also, I would be very interested in who (callsign) is sending the signal and

what software and/or hardware they are using.

The talk I hear between local level emergency managers and FEMA is that the local emergency managers need to get their HF data communications on the "federal high speed data standard"...whatever that is.

It is really pointing to the same song I have been singing for 10 years now. U.S. hams must meet their customers needs...that is, those agencies that require emergency communications...and that's really in our charter as U.S. hams.

I see too many emergency operations centers depending on the Internet and in the field on cellphones connected to computers and we know that this just isn't going to work in a real disaster. The last big flood we had here in San Antonio and the one last year in Houston just flat shut down most of the cellphone operation as well as loss of 60+% of Internet connectivity. Had the communications requirement lasted longer than 24 hours, the need for "long haul" HF high speed data communications would have become very apparent.

Walt

-----Original Message-----
From: Robert McGwier [mailto:rwmcgwier@comcast.net]
Sent: Friday, February 15, 2002 6:25 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Mil Std 188-110-A1

This morning, I heard Mil Std 188-110-A1 on 20 meters in 14.070 covering up the entire PSK band. One thing is clear. This will never be an acceptable mode for this band ever.

I have recorded the cuts as I was not able to get my demodulator up and running in time. I will see what I can see when I demodulate and report here.

Bob
N4HY

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Fri, 15 Feb 2002 12:36:42 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63242-2002.02.15-12.10.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

RE: [hfsig] Mil Std 188-110-A1Walt:

I agree that we need to get on the high speed data standard, but we do NOT need to do it 14.070 Mhz. The high speed standard FS1052, is almost surely FEMA is talking about. But I feel, at 2400 baud, it has no place in the 100 Khz of 20 meters where data is now "allowed". It should be developed and used on the higher bands and say 80 meters and put into operation on other frequencies only in case of emergency.

It is my plan, 2.5 years after the first try, to go back to my employer and ask for permission to release my code. This has been a really painful thing to me, but it is what it is. I think smarter minds (including things I have learned) will make the request go more smoothly now. I intend using FEMA and ARES interoperability as an argument in favor of release.

I was given to understand that Charles was experimenting with FS1052 but I REALLY hope he and his experimenters will stay off 20 meters since that will almost surely lead to a war regarding digital modes at

a time when we are winning the battles and swaying the hearts and minds.

In the end, I think that rather than a full source release, I am going to be allowed to "AE4JY" the code
and release it as a dynamically linked library in versions that will work on linux and windows as AE4JY
did with his PSKcore.dll. I am pushing for source release, but if we can't get it, then I will push for the
binary release.

Bob McGwier
N4HY

> -----Original Message-----
> From: bounce-hfsig-27905@lists.tapr.org [mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of DuBose Walt Civ AETC CONS/LGCA
> Sent: Friday, February 15, 2002 9:41 AM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] RE: Mil Std 188-110-A1
>
> Robert, et. al.,
>
> I am 100% in agreement...you don't use a wide more in an segment that is KNOW to have narrow operation...just isn't the polite thing to do...its not the HAM thing to do.
>
> But I have to wonder, based on several things the least of which is the need for hams to support contingency communications, if we don't need to seriously consider a place for wide bandwidth data transmissions.
>
> Also, I would be very interested in who (callsign) is sending the signal and what software and/or hardware they are using.
>
> The talk I hear between local level emergency managers and FEMA is that the local emergency managers need to get their HF data communications on the "federal high speed data standard"...whatever that is.
>
> It is really pointing to the same song I have been singing for 10 years now. U.S. hams must meet their customers needs...that is, those agencies that require emergency communications...and that's really in our charter as U.S. hams.
>
> I see too many emergency operations centers depending on the Internet and in the field on cellphones connected to computers and we know that this just isn't going to work in a real disaster. The last big flood we had here in San Antonio and the one last year in Houston just flat shut down most of the cellphone operation as well as loss of 60+% of Internet connectivity. Had the communications requirement lasted longer than 24 hours, the need for "long haul" HF high speed data communications would have become very apparent.
>
> Walt
>
> -----Original Message-----
> From: Robert McGwier [mailto:rwmcgwier@comcast.net]
> Sent: Friday, February 15, 2002 6:25 AM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Mil Std 188-110-A1
>
> This morning, I heard Mil Std 188-110-A1 on 20 meters in
> 14.070 covering up the entire PSK band. One thing is clear.
> This will never be an acceptable mode for this band ever.
>
> I have recorded the cuts as I was not able to get my
> demodulator up and running in time. I will see what I can
> see when I demodulate and report here.
>
> Bob
> N4HY

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

From: DuBose Walt Civ AETC CONS/LGCA <Walt.DuBose@RANDOLPH.AF.MIL>
Date: Fri, 15 Feb 2002 11:54:44 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63261-2002.02.15-12.26.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert,

I certainly was NOT advocating wide bandwidth data in the narrow portion of 20M or any band. However, from San Antonio to Scott AFB, IL (outside St. Louis) and NDMS HQ in the D.C. area would probably not be reachable on 80M or 40M during the day. Thus, this leaves us with 30M and 20M. And certainly from the West Coast to the Scott AFB or the D.C. area. Even in big old TEXAS, during the day sometimes I find that I need 30M to get from San Antonio out to West Texas. And gosh, Brownsville to Scott AFB is a fur piece.

Perhaps we need to look a one or two channels set aside for the wide modes. (Don't you just hate using that word...channel?)

Larger cities are now coping with a terrorism scenario (including biological and chemical scenarios) which almost certainly dictate the use of long haul HF. Hopefully we never need this capability...but if we don't have bands to "practice" this on, then IF the real thing comes along, we just might be SOL.

BTW, I am keeping this open and let others comment. I hope everyone will look at the need/requirement vs. a simple solution and present sage and common sense proposals for a solution...this IS a wise mailing list.

If a simple solution can be had without using 30M or 20M, then I am all for it.

Walt

-----Original Message-----
From: Robert McGwier [mailto:rwmcgwier@comcast.net]
Sent: Friday, February 15, 2002 11:37 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

Walt:

I agree that we need to get on the high speed data standard, but we do NOT need to do it 14.070 Mhz. The high
speed standard FS1052, is almost surely FEMA is talking about. But I feel, at 2400 baud, it has no place in the
100 Khz of 20 meters where data is now "allowed". It should be developed and used on the higher bands and say 80
meters and put into operation on other frequencies only in case of emergency.

It is my plan, 2.5 years after the first try, to go back to my employer and ask for permission to release my code.
This has been a really painful thing to me, but it is what it is. I think smarter minds (including things I have
learned) will make the request go more smoothly now. I intend using FEMA and ARES interoperability as
an argument in favor of release.

I was given to understand that Charles was experimenting with FS1052 but I REALLY hope he and his
experimenters will stay off 20 meters since that will almost surely lead to a war regarding digital modes at
a time when we are winning the battles and swaying the hearts and minds.

In the end, I think that rather than a full source release, I am going to be allowed to "AE4JY" the code
and release it as a dynamically linked library in versions that will work on linux and windows as AE4JY
did with his PSKcore.dll. I am pushing for source release, but if we can't

get it, then I will push for the
binary release.

Bob McGwier
N4HY
-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of DuBose Walt Civ AETC
CONS/LGCA
Sent: Friday, February 15, 2002 9:41 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: Mil Std 188-110-A1

Robert, et. al.,
I am 100% in agreement...you don't use a wide more in an segment that is
KNOW to have narrow operation...just isn't the polite thing to do...its not
the HAM thing to do.
But I have to wonder, based on several things the least of which is the need
for hams to support contingency communications, if we don't need to
seriously consider a place for wide bandwidth data transmissions.
Also, I would be very interested in who (callsign) is sending the signal and
what software and/or hardware they are using.
The talk I hear between local level emergency managers and FEMA is that the
local emergency managers need to get their HF data communications on the
"federal high speed data standard"...whatever that is.
It is really pointing to the same song I have been singing for 10 years now.
U.S. hams must meet their customers needs...that is, those agencies that
require emergency communications...and that's really in our charter as U.S.
hams.
I see too many emergency operations centers depending on the Internet and in
the field on cellphones connected to computers and we know that this just
isn't going to work in a real disaster. The last big flood we had here in
San Antonio and the one last year in Houston just flat shut down most of the
cellphone operation as well as loss of 60+% of Internet connectivity. Had
the communications requirement lasted longer than 24 hours, the need for
"long haul" HF high speed data communications would have become very
apparent.
Walt

-----Original Message-----
From: Robert McGwier [mailto:rwmcgwier@comcast.net]
Sent: Friday, February 15, 2002 6:25 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Mil Std 188-110-A1

This morning, I heard Mil Std 188-110-A1 on 20 meters in
14.070 covering up the entire PSK band. One thing is clear.
This will never be an acceptable mode for this band ever.
I have recorded the cuts as I was not able to get my
demodulator up and running in time. I will see what I can
see when I demodulate and report here.
Bob
N4HY

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

17. [hfsig] RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

From: "Charles H. Brain" <chbrain@dircon.co.uk>
Date: Fri, 15 Feb 2002 18:21:39 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63263-2002.02.15-12.48.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

RE: [hfsig] Mil Std 188-110-A1Hello Bob,

It is certainly not me!

I do all my testing now using channel simulators anyhow.

I do have a 110A implementation but no-one else has it and it is still

work in progress.

I am currently working on an ARINC 635 demodulator.

- Charles

  ----- Original Message -----
  From: Robert McGwier
  To: TAPR HF Special Interest Group
  Sent: Friday, February 15, 2002 5:36 PM
  Subject: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

  I was given to understand that Charles was experimenting with FS1052 but I REALLY hope he and his
  experimenters will stay off 20 meters since that will almost surely lead to a war regarding digital
modes at
  a time when we are winning the battles and swaying the hearts and minds.

18. [hfsig] RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org> <LYR27905-63263-2002.02.15-12.48.24--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Fri, 15 Feb 2002 15:03:32 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63286-2002.02.15-14.34.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

RE: [hfsig] Mil Std 188-110-A1Thanks Charles.

Bob

  -----Original Message-----
  From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Charles H. Brain
  Sent: Friday, February 15, 2002 1:22 PM
  To: TAPR HF Special Interest Group
  Subject: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

  Hello Bob,

  It is certainly not me!

  I do all my testing now using channel simulators anyhow.

  I do have a 110A implementation but no-one else has it and it is still
  work in progress.

  I am currently working on an ARINC 635 demodulator.

  - Charles

    ----- Original Message -----
    From: Robert McGwier
    To: TAPR HF Special Interest Group
    Sent: Friday, February 15, 2002 5:36 PM
    Subject: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

    I was given to understand that Charles was experimenting with FS1052 but
I REALLY hope he and his
    experimenters will stay off 20 meters since that will almost surely lead
to a war regarding digital modes at
    a time when we are winning the battles and swaying the hearts and minds.

19. [hfsig] RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

From: "Borcher, Dave (HT-EX)" <DBorcher@GI.com>
Date: Fri, 15 Feb 2002 17:45:53 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63301-2002.02.15-17.17.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How about using a frequency close to the 14.230 MHz SSTV calling frequency?

   Dave Borcher
Senior Applications Engineer
     Motorola BCS
   (520) 579 8047 ofc
   (520) 907 0737 cell

-----Original Message-----
From: DuBose Walt Civ AETC CONS/LGCA [mailto:Walt.DuBose@RANDOLPH.AF.MIL]
Sent: Friday, February 15, 2002 10:55 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.
12.23--rwmcgwier#comcast.net@lists.tapr.org>

Robert,

I certainly was NOT advocating wide bandwidth data in the narrow portion of 20M or any band. However, from San Antonio to Scott AFB, IL (outside St. Louis) and NDMS HQ in the D.C. area would probably not be reachable on 80M or 40M during the day. Thus, this leaves us with 30M and 20M. And certainly from the West Coast to the Scott AFB or the D.C. area. Even in big old TEXAS, during the day sometimes I find that I need 30M to get from San Antonio out to West Texas. And gosh, Brownsville to Scott AFB is a fur piece.
Perhaps we need to look a one or two channels set aside for the wide modes. (Don't you just hate using that word...channel?)
Larger cities are now coping with a terrorism scenario (including biological and chemical scenarios) which almost certainly dictate the use of long haul HF. Hopefully we never need this capability...but if we don't have bands to "practice" this on, then IF the real thing comes along, we just might be SOL.
BTW, I am keeping this open and let others comment. I hope everyone will look at the need/requirement vs. a simple solution and present sage and common sense proposals for a solution...this IS a wise mailing list.
If a simple solution can be had without using 30M or 20M, then I am all for it.
Walt
 -----Original Message-----
From: Robert McGwier [mailto:rwmcgwier@comcast.net
<mailto:rwmcgwier@comcast.net>]
Sent: Friday, February 15, 2002 11:37 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

Walt:
I agree that we need to get on the high speed data standard, but we do NOT need to do it 14.070 Mhz. The high
speed standard FS1052, is almost surely FEMA is talking about. But I feel, at 2400 baud, it has no place in the
100 Khz of 20 meters where data is now "allowed". It should be developed and used on the higher bands and say 80
meters and put into operation on other frequencies only in case of emergency.
It is my plan, 2.5 years after the first try, to go back to my employer and ask for permission to release my code.
This has been a really painful thing to me, but it is what it is.   I think smarter minds (including things I have
learned) will make the request go more smoothly now. I intend using FEMA and ARES interoperability as
an argument in favor of release.
I was given to understand that Charles was experimenting with FS1052 but I REALLY hope he and his
experimenters will stay off 20 meters since that will almost surely lead to a war regarding digital modes at
a time when we are winning the battles and swaying the hearts and minds.
In the end, I think that rather than a full source release, I am going to be allowed to "AE4JY" the code
and release it as a dynamically linked library in versions that will work on linux and windows as AE4JY
did with his PSKcore.dll. I am pushing for source release, but if we can't get it, then I will push for the
binary release.
Bob McGwier
N4HY
-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org [
mailto:bounce-hfsig-27905@lists.tapr.org
<mailto:bounce-hfsig-27905@lists.tapr.org>]On Behalf Of DuBose Walt Civ
AETC CONS/LGCA

Sent: Friday, February 15, 2002 9:41 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: Mil Std 188-110-A1

Robert, et. al.,
I am 100% in agreement...you don't use a wide more in an segment that is KNOW to have narrow operation...just isn't the polite thing to do...its not the HAM thing to do.
But I have to wonder, based on several things the least of which is the need for hams to support contingency communications, if we don't need to seriously consider a place for wide bandwidth data transmissions.
Also, I would be very interested in who (callsign) is sending the signal and what software and/or hardware they are using.
The talk I hear between local level emergency managers and FEMA is that the local emergency managers need to get their HF data communications on the "federal high speed data standard"...whatever that is.
It is really pointing to the same song I have been singing for 10 years now. U.S. hams must meet their customers needs...that is, those agencies that require emergency communications...and that's really in our charter as U.S. hams.
I see too many emergency operations centers depending on the Internet and in the field on cellphones connected to computers and we know that this just isn't going to work in a real disaster. The last big flood we had here in San Antonio and the one last year in Houston just flat shut down most of the cellphone operation as well as loss of 60+% of Internet connectivity. Had the communications requirement lasted longer than 24 hours, the need for "long haul" HF high speed data communications would have become very apparent.
Walt

-----Original Message-----
From: Robert McGwier [mailto:rwmcgwier@comcast.net
<mailto:rwmcgwier@comcast.net>]
Sent: Friday, February 15, 2002 6:25 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Mil Std 188-110-A1

This morning, I heard Mil Std 188-110-A1 on 20 meters in 14.070 covering up the entire PSK band. One thing is clear. This will never be an acceptable mode for this band ever. I have recorded the cuts as I was not able to get my demodulator up and running in time. I will see what I can see when I demodulate and report here.
Bob
N4HY

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org> <LYR27905-63301-2002.02.15-17.17.41--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Fri, 15 Feb 2002 23:07:27 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63356-2002.02.15-22.38.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

RE: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>Yo u mean something like right on top of them showing their half naked girls and pot bellies?

Well, maybe 14.347 Mhz we might survive.

Bob

  -----Original Message-----
  From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Borcher, Dave (HT-EX)
  Sent: Friday, February 15, 2002 5:46 PM
  To: TAPR HF Special Interest Group
  Subject: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

  How about using a frequency close to the 14.230 MHz SSTV calling

frequency?

Dave Borcher

Senior Applications Engineer

Motorola BCS

(520) 579 8047 ofc

(520) 907 0737 cell

-----Original Message-----
From: DuBose Walt Civ AETC CONS/LGCA [mailto:Walt.DuBose@RANDOLPH.AF.MIL]
Sent: Friday, February 15, 2002 10:55 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

Robert,

I certainly was NOT advocating wide bandwidth data in the narrow portion of 20M or any band. However, from San Antonio to Scott AFB, IL (outside St. Louis) and NDMS HQ in the D.C. area would probably not be reachable on 80M or 40M during the day. Thus, this leaves us with 30M and 20M. And certainly from the West Coast to the Scott AFB or the D.C. area. Even in big old TEXAS, during the day sometimes I find that I need 30M to get from San Antonio out to West Texas. And gosh, Brownsville to Scott AFB is a fur piece.

Perhaps we need to look a one or two channels set aside for the wide modes. (Don't you just hate using that word...channel?)

Larger cities are now coping with a terrorism scenario (including biological and chemical scenarios) which almost certainly dictate the use of long haul HF. Hopefully we never need this capability...but if we don't have bands to "practice" this on, then IF the real thing comes along, we just might be SOL.

BTW, I am keeping this open and let others comment. I hope everyone will look at the need/requirement vs. a simple solution and present sage and common sense proposals for a solution...this IS a wise mailing list.

If a simple solution can be had without using 30M or 20M, then I am all for it.

Walt

-----Original Message-----
From: Robert McGwier [mailto:rwmcgwier@comcast.net]
Sent: Friday, February 15, 2002 11:37 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

Walt:

I agree that we need to get on the high speed data standard, but we do NOT need to do it 14.070 Mhz. The high
speed standard FS1052, is almost surely FEMA is talking about. But I feel, at 2400 baud, it has no place in the
100 Khz of 20 meters where data is now "allowed". It should be developed and used on the higher bands and say 80
meters and put into operation on other frequencies only in case of emergency.

It is my plan, 2.5 years after the first try, to go back to my employer and ask for permission to release my code.
This has been a really painful thing to me, but it is what it is. I think smarter minds (including things I have
learned) will make the request go more smoothly now. I intend using FEMA

and ARES interoperability as
an argument in favor of release.

I was given to understand that Charles was experimenting with FS1052 but I REALLY hope he and his
experimenters will stay off 20 meters since that will almost surely lead to a war regarding digital modes at
a time when we are winning the battles and swaying the hearts and minds.

In the end, I think that rather than a full source release, I am going to be allowed to "AE4JY" the code
and release it as a dynamically linked library in versions that will work on linux and windows as AE4JY
did with his PSKcore.dll. I am pushing for source release, but if we can't get it, then I will push for the
binary release.

Bob McGwier
N4HY
-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org [mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of DuBose Walt Civ AETC CONS/LGCA

Sent: Friday, February 15, 2002 9:41 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: Mil Std 188-110-A1

Robert, et. al.,
I am 100% in agreement...you don't use a wide more in an segment that is KNOW to have narrow operation...just isn't the polite thing to do...its not the HAM thing to do.

But I have to wonder, based on several things the least of which is the need for hams to support contingency communications, if we don't need to seriously consider a place for wide bandwidth data transmissions.

Also, I would be very interested in who (callsign) is sending the signal and what software and/or hardware they are using.

The talk I hear between local level emergency managers and FEMA is that the local emergency managers need to get their HF data communications on the "federal high speed data standard"...whatever that is.

It is really pointing to the same song I have been singing for 10 years now. U.S. hams must meet their customers needs...that is, those agencies that require emergency communications...and that's really in our charter as U.S. hams.

I see too many emergency operations centers depending on the Internet and in the field on cellphones connected to computers and we know that this just isn't going to work in a real disaster. The last big flood we had here in San Antonio and the one last year in Houston just flat shut down most of the cellphone operation as well as loss of 60+% of Internet connectivity. Had the communications requirement lasted longer than 24 hours, the need for "long haul" HF high speed data communications would have become very apparent.

Walt

-----Original Message-----
From: Robert McGwier [mailto:rwmcgwier@comcast.net]
Sent: Friday, February 15, 2002 6:25 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Mil Std 188-110-A1

This morning, I heard Mil Std 188-110-A1 on 20 meters in
14.070 covering up the entire PSK band. One thing is clear.
This will never be an acceptable mode for this band ever.
I have recorded the cuts as I was not able to get my
demodulator up and running in time. I will see what I can
see when I demodulate and report here.
Bob

N4HY

You are currently subscribed to hfsig as: walt.dubose@randolph.af.mil
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] RE: Mil Std 188-110-A1

From: "Charles H. Brain" <chbrain@dircon.co.uk>
Date: Sat, 16 Feb 2002 07:54:08 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63375-2002.02.16-02.18.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

RE: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>A number of Amateurs are already using that for MIL-STD ALE
Other frequencies they are using are :-

3682500 LSB

3687500 LSB

3982500 LSB

3987500 LSB

3992500 LSB

3997500 LSB

7097500 LSB

7087500 LSB

7243000 LSB

7248000 LSB

7298000 LSB

14339000 USB

14342500 USB

14345000 USB

14347000 USB

18147500 USB

18152500 USB

18160000 USB

18162500 USB

21432000 USB

21437000 USB

21442000 USB

- Charles
  ----- Original Message -----
  From: Robert McGwier
  To: TAPR HF Special Interest Group
  Sent: Saturday, February 16, 2002 4:07 AM
  Subject: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>
<LYR27905-63301-2002.02.15-17.17.41--rwmcgwier#comcast.net@lists.tapr.org>

  You mean something like right on top of them showing their half naked girls and pot bellies?

  Well, maybe 14.347 Mhz we might survive.

  Bob

22. [hfsig] RE: Mil Std 188-110-A1 <LYR27905-63375-2002.02.16-02.18.54--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Sat, 16 Feb 2002 08:10:39 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63388-2002.02.16-07.41.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

RE: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>I
agrree with this list. The way we should operate is to hail with ALE and
then converse with either ALE's data block mode or with follow on wide
modem.

Bob

  -----Original Message-----
  From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Charles H. Brain
  Sent: Saturday, February 16, 2002 2:54 AM
  To: TAPR HF Special Interest Group
  Subject: [hfsig] RE: Mil Std 188-110-A1

  A number of Amateurs are already using that for MIL-STD ALE
  Other frequencies they are using are :-

  3682500 LSB

  3687500 LSB

  3982500 LSB

   3987500 LSB

   3992500 LSB

   3997500 LSB

   7097500 LSB

   7087500 LSB

  7243000 LSB

  7248000 LSB

  7298000 LSB

  14339000 USB

  14342500 USB

  14345000 USB

  14347000 USB

  18147500 USB

  18152500 USB

  18160000 USB

  18162500 USB

  21432000 USB

  21437000 USB

  21442000 USB

  - Charles
    ----- Original Message -----
    From: Robert McGwier
    To: TAPR HF Special Interest Group
    Sent: Saturday, February 16, 2002 4:07 AM
    Subject: [hfsig] RE: Mil Std 188-110-A1
<LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>

<LYR27905-63301-2002.02.15-17.17.41--rwmcgwier#comcast.net@lists.tapr.org>

    You mean something like right on top of them showing their half naked
girls and pot bellies?

    Well, maybe 14.347 Mhz we might survive.

    Bob

23. [hfsig] Re: hfsig digest: February 15, 2002

From: Hank Greeb <hgreeb@one.net>
Date: Sat, 16 Feb 2002 08:19:24 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63394-2002.02.16-07.53.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ladies and gentlemen:

Wide bandwidth for 20 metres? May I throw in a complaint about ultra wide bandwidth for this SIG?

The eight messages in the hfsig digest for 15 February 2002 amounted 112K of bits and bytes, mostly copies of copies of copies, et. nausea, of messages appended, THEN the html from the MIME formatted messages.

It might be more sensible to instruct your mail system to send messages to this SIG as plain text, and to trim most of the appended message, leaving only a few sentences to give the "general idea" of the subject about which
is being discussed.

I personally use the digest mode for this SIG (and many others to which I belong) so I'm not bothered with a myriad of messages, but am subjected to only one per day from each SIG. However, when the digest becomes multi
thousand bytes I have a tendency to toss the whole thing out without reading it.

In the daze of sp*rk, then CW, there used to be an olde adage to

"engage brain before putting hand to the key."

In the daze of AM, FM, SSB, etc., there used to be (and still is) and olde adage to:

"Engage brain before putting mouth in gear."

Perhaps we need here in this group a new adage

"engage brain before pushing the 'send' box on the mailer."

73 de n8xx Hg

TAPR HF Special Interest Group digest wrote:

> TAPR HF Special Interest Group Digest for Friday, February 15, 2002.
>
> 1. Mil Std 188-110-A1
> 2. RE: Mil Std 188-110-A1
> 3. RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>
> 4. RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.
12.23--rwmcgwier#comcast.net@lists.tapr.org>
> 5. RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>
> 6. RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>
<LYR27905-63263-2002.02.15-12.48.24--rwmcgwier#comcast.net@lists.tapr.org>
> 7. RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.
12.23--rwmcgwier#comcast.net@lists.tapr.org>
> 8. RE: Mil Std 188-110-A1 <LYR27905-63213-2002.02.15-09.12.23--rwmcgwier#comcast.net@lists.tapr.org>
<LYR27905-63301-2002.02.15-17.17.41--rwmcgwier#comcast.net@lists.tapr.org>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Re: Mil std 188-110-A1

From: "France Antelme" <fantelme2@attbi.com>
Date: Sat, 16 Feb 2002 09:40:25 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63467-2002.02.16-12.07.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob and all,

This is exciting stuff that that is long overdue in assisting with aligning Ham radio capabilities and techniques with the general movement of all communications systems towards digitized voice and IP based networking connectivity.

Been experimenting with Charles's PC-ALE software which can surely provide us with a platform to begin with.

Look forward to further developments here.

-France K6QO-

25. [hfsig] Re: Mil std 188-110-A1 <LYR27905-63467-2002.02.16-12.07.36--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Sat, 16 Feb 2002 13:03:29 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63470-2002.02.16-12.34.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It is only exciting after it gets going. I have had this fully functional Mil. Std 188-110A1 modem for over 2 years. I am just now ending the cycle of getting it okayed to release from my company. It was all developed on my own time and at home. It just like a restrictive covenant, beware what you sign at the outset. In this case, I already knew I needed approval. To my extreme chagrin, they approved my giving the talk, and demonstrating the software at the TAPR DCC and then denied release of the code after I had already told the world about it. I didn't lose my cool and knew that with patience and following the rules that either I or someone else would do the code as it is an absolute requirement for us to interoperate with FEMA and other agencies. This too will happen.

Bob

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

26. [hfsig] Re: Mil std 188-110-A1 <LYR27905-63467-2002.02.16-12.07.36--rwmcgwier#comcast.net@lists.tapr.org>

From: Walt DuBose <dubose@texas.net>
Date: Sat, 16 Feb 2002 20:50:50 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63547-2002.02.16-21.17.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert McGwier wrote:
>
>.... knew that with patience and following the rules that
> either I or someone else would do the code as it is an
> absolute requirement for us to interoperate with FEMA and
> other agencies. This too will happen.
>
> Bob
>

When the time has arrives, I believe that the "moment" will be as important, perhaps more important, than the introduction of SSB into ham radio.

I am anxiously waiting and HOPING for a QST article.

Walt/K5YFW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

27. [hfsig] Re: Mil std 188-110-A1

From: "Charles H. Brain" <chbrain@dircon.co.uk>
Date: Sun, 17 Feb 2002 08:36:16 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63625-2002.02.17-02.59.04--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

Of course the next problem is what data link protocol to use!
The FS-1052 DLP has a very high overhead when negotiating
data rate changes. Stanag 5066 is somewhat better.

The new 3rd generation ALE high speed protocols seem to be about optimum.
They use a code combining ARQ system with an 1/8 rate convolutional
block code. The waveform format is very similar to 110A and it would
be fairly simple to modify Bobs code. But I doubt any U.S gov agencies are
using it yet.

My 1052 DLP implementation is almost fully functional, I still have some
issues with the datarate negotiation and the timeouts. I found the spec very
confusing.

The performance (1052 DLP) is considerably better than AX.25 when
testing on a ITU-T channel. It is also very point to point oriented, like it
wants its own channel. Selective ARQ is amazing on an HF channel!

I had a look at 5066, there is an awful lot to it not just the data link layer!

I guess what I am trying to say is that there is an awful lot more to it than just the
modem.

- Charles

----- Original Message -----
From: "Robert McGwier" <rwmcgwier@comcast.net>
> either I or someone else would do the code as it is an absolute requirement
> for us to interoperate with FEMA and other agencies. This too will happen.
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

28. [hfsig] Re: Mil std 188-110-A1 <LYR27905-63625-2002.02.17-02.59.04--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Sun, 17 Feb 2002 09:18:00 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63680-2002.02.17-08.49.25--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles:

Unfortunately or fortunately depending strictly on your point of
view, we have FEMA basically howling at us over here. I have
several friends who are working with their local emergency
responders/communications facilities at the county (RACES) level who
are taking heat for not being prepared to take over comms during
the cell phone outages in NYC and during floods, etc.

On your confusing using FS1052 DLP and the specs, join the
club. It is hard to believe how much effort is put into
obfuscation .

As you say, 3rd gen is an easy modification of Phil and Bob's
code. I happily stole every line of the FEC from Phil and his
work will make it easy to change the FEC and get the improved
performance form the 1/8 rate.

Bob

You are currently subscribed to hfsig as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

29. [hfsig] Hmmmmmm....

From: Hank Greeb <hgreeb@one.net>
Date: Sun, 17 Feb 2002 12:07:31 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63737-2002.02.17-11.42.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don't know why this one didn't come through on last night's digest, but last night's digets was 28K (down from 116K the evening before), of which perhaps 24K was copies of copies of copies and html source code on top of html source code, et. nausea.

I repeat once more,
==========
Ladies and gentlemen:

Wide bandwidth for 20 metres? May I throw in a complaint about ultra wide bandwidth for this SIG?

The eight messages in the hfsig digest for 15 February 2002 amounted 112K of bits and bytes, mostly copies of copies of copies, et. nausea, of messages appended, THEN the html from the MIME formatted messages.

It might be more sensible to instruct your mail system to send messages to this SIG as plain text, and to trim most of the appended message, leaving only a few sentences to give the "general idea" of the subject about which is being discussed.

I personally use the digest mode for this SIG (and many others to which I belong) so I'm not bothered with a myriad of messages, but am subjected to only one per day from each SIG. However, when the digest becomes multi thousand bytes of extraneous garbage I have a tendency to toss the whole thing out without reading it.

In the daze of sp*rk, then CW, there used to be an olde adage to

"engage brain before putting hand to the key."

In the daze of AM, FM, SSB, etc., there used to be (and still is) and olde adage to:

"Engage brain before putting mouth in gear."

Perhaps we need here in this group a new adage

"engage brain before pushing the 'send' box on the mailer."

73 de n8xx Hg

TAPR HF Special Interest Group digest wrote:

> TAPR HF Special Interest Group Digest for Saturday, February 16, 2002.
>
> 1. RE: Mil Std 188-110-A1
> 2. RE: Mil Std 188-110-A1 <LYR27905-63375-2002.02.16-02.18.54--rwmcgwier#comcast.net@lists.tapr.org>
> 3. Re: hfsig digest: February 15, 2002
> 4. Re: Mil std 188-110-A1
> 5. Re: Mil std 188-110-A1 <LYR27905-63467-2002.02.16-12.07.36--rwmcgwier#comcast.net@lists.tapr.org>
> 6. Re: Mil std 188-110-A1 <LYR27905-63467-2002.02.16-12.07.36--rwmcgwier#comcast.net@lists.tapr.org>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

30. [hfsig] RE: Hmmmmmm.... <LYR27905-63737-2002.02.17-11.42.51--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Sun, 17 Feb 2002 12:32:55 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63740-2002.02.17-12.04.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

We heard you the first time.

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Hank Greeb
Sent: Sunday, February 17, 2002 12:08 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Hmmmmmm....

Don't know why this one didn't come through on last night's digest, but last night's digets was 28K (down from 116K the evening before), of which perhaps 24K was copies of copies of copies and html source code on top of html source code, et. nausea.

I repeat once more,

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

31. [hfsig] Re: Hmmmmmm....

From: "France Antelme" <fantelme2@attbi.com>
Date: Sun, 17 Feb 2002 10:26:54 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-63748-2002.02.17-12.54.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A 116K digest is no big deal and the e-mail threads help keep the sense of the correspondence. After all we're not working in the days of 14.4 modems anymore

----- Original Message -----
From: "Hank Greeb" <hgreeb@one.net>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Sunday, February 17, 2002 9:07 AM
Subject: [hfsig] Hmmmmmm....

> Don't know why this one didn't come through on last night's digest, but last night's digets was 28K (down from 116K the evening before), of which perhaps 24K was copies of copies of copies and html source code on top of html source code, et. nausea.
>
> I repeat once more,
> ===========
> Ladies and gentlemen:
>
> Wide bandwidth for 20 metres? May I throw in a complaint about ultra wide bandwidth for this SIG?
>
> The eight messages in the hfsig digest for 15 February 2002 amounted 112K of bits and bytes, mostly copies of copies of copies, et. nausea, of messages appended, THEN the html from the MIME formatted messages.
>
> It might be more sensible to instruct your mail system to send messages to this SIG as plain text, and to trim most of the appended message, leaving only a few sentences to give the "general idea" of the subject about which is being discussed.
>
> I personally use the digest mode for this SIG (and many others to which I belong) so I'm not bothered with a myriad of messages, but am subjected to only one per day from each SIG. However, when the digest becomes multi thousand bytes of extraneous garbage I have a tendency to toss the whole thing out without reading it.
>
> In the daze of sp*rk, then CW, there used to be an olde adage to
>
> "engage brain before putting hand to the key."
>
> In the daze of AM, FM, SSB, etc., there used to be (and still is) and olde adage to:
>
> "Engage brain before putting mouth in gear."
>
> Perhaps we need here in this group a new adage
>
> "engage brain before pushing the 'send' box on the mailer."
>
> 73 de n8xx Hg
>
>
>
> TAPR HF Special Interest Group digest wrote:
>

> > TAPR HF Special Interest Group Digest for Saturday, February 16, 2002.
> >
> > 1. RE: Mil Std 188-110-A1
> > 2. RE: Mil Std 188-110-A1
<LYR27905-63375-2002.02.16-02.18.54--rwmcgwier#comcast.net@lists.tapr.org>
> > 3. Re: hfsig digest: February 15, 2002
> > 4. Re: Mil std 188-110-A1
> > 5. Re: Mil std 188-110-A1
<LYR27905-63467-2002.02.16-12.07.36--rwmcgwier#comcast.net@lists.tapr.org>
> > 6. Re: Mil std 188-110-A1
<LYR27905-63467-2002.02.16-12.07.36--rwmcgwier#comcast.net@lists.tapr.org>
>
>
> ---
> You are currently subscribed to hfsig as: fantelme2@attbi.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

32. [hfsig] RE: Mil Std 188-110-A1

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 19 Feb 2002 17:11:03 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64228-2002.02.19-11.42.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> It is my plan, 2.5 years after the first try, to go back to my employer
and ask for permission to release my code.
> This has been a really painful thing to me, but it is what it is.   I
think smarter minds (including things I have
> learned) will make the request go more smoothly now. I intend using
FEMA and ARES interoperability as
> an argument in favor of release.

I wish you every success. With the recent concerns over
disaster and increased public-spiritedness in the USA it
may swing things.

I hope you can get some kind of source out or shared
ownership of the work in case something happens to
you, you leave your company or somesuch. At least
someone else in the community can pick it up and
maintain it. A number of good programs have been
lost to the community as a result of "one owner".

Would "libraries" include Windows-CE, and Linux ports
for PDAs? I'm thinking portable here.

There have also been a number of offers to add things like
STANAG 4285, 4529... not being able to have others working
on the source might slow developments down a lot.

It's a pity it doesn't contain a little bit of GPL code somewhere.

I'm all in favour as free code would reduce the proliferation
of proprietary modulation modes; and standardisation is
always a key thing for communications. Standards built
the internet and the mobile phone; the comms networks
people really use.

It must be very frustrating if your company are not actually
going to use it for anything.

I know I have something similar in my contract; as I understood
it inhibits doing work for a competitor or selling a commercial
product; I didn't think it covered public research or charitable
service, amateur experiments or teaching students. Perhaps
even writing technical books is OK. I must dig it out and have a
look; I've never signed any new contract since I joined Marconi
Marine over 12 years ago.

A few days ago I was looking at the bandplans for 50MHz
and thinking how absurd it was to have 20kHz FM channels,

offset by 10kHz. At 70MHz, 2m, 70cm we now have 12.5kHz
channels. I thought it seemed painful as you couldn't
transvert or convert commercial and amateur channellised
FM sets to 50MHz.

But your disaster communications arguament should apply
here too: The military standard 30-88MHz VHF has 25kHz FM
channels, none of which coincide with any of the FM channels
in the amateur 50MHz bandplan. Why make the radios
incompatible by design? Why erect repeaters on frequencies
that are 5kHz wrong enough to make them inaccessible
to the most common military radios?

I notice our "Raynet" emergency group concentrate on 2m
and 70cm portables; great fun for rescuing the cars stuck in
the mud at the county show but not so useful in a real disaster.
50MHz would be a lot more use. If chaos struck tonight I
could grab two army VHF sets and 100 yards of bell wire
and have an emergency repeater covering the whole county
in 20 minutes. The army reserves can do just the same.
That can't be done on 2 metres.

The last "disaster" in the UK was a fuel shortage - your
100W mobile HF datacomms system is stuck in a 4x4 with
an empty tank. And how long would your shack stay up
with the power lines down? With a big stack of batteries,
an all-band portable and a PDA you might just be able to
take off on foot and stay live on location for the day.

The military standard is 16kb/s FSK data on VHF which
I'd like to see amateurs adopt from your interoperability
POV, instead of rates like 14k4. When I get more involved
in IP packet I'll look into it. The 50 & 70MHz bands are
criminally under-used at the moment. I called CQ on 70MHz
from the hill last week and all I got was very cold :-(

Ant, M1FDE

This e-mail and any attachments are confidential. If you are not the intended recipient, please notify
us immediately by reply e-mail and then delete this message from your system. Do not copy this e-mail or
 any attachments, use the contents for any purpose, or disclose the contents to any other person: to do
so could be a breach of confidence.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

33. [hfsig] Re: HFSIG set to Members Only

From: Erik Skovgaard <ve7mdl@rac.ca>
Date: Tue, 19 Feb 2002 13:18:15 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-64291-2002.02.19-15.59.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

Thanks, good idea.

73 de VE7MDL   ....Erik.

At 08:15 02/01/30 -0700, you wrote:
>Everyone,
>
>In light of the SPAM, the HFSIG (as most TAPR lists) has been set to members
>only submission. That means you can only send messages to the list from the
>email you subscribed to the list.
>
>Admin changes of your TAPR lists is easy from
>
>   http://www.tapr.org/cgi-bin/lyris.pl?site=tapr
>
>This link in on the TAPR home page as TAPR LISTS.
>
>
>

>- Steve, N7HPR
>   (n7hpr@tapr.org)
>
>
>
>---
>You are currently subscribed to hfsig as: ve7mdl@rac.ca
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

34. [hfsig] FS: DSP56002 EVM and TAPR Radio Interface

From: Rickd73@aol.com
Date: Wed, 27 Feb 2002 19:47:51 EST
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-65744-2002.02.27-19.19.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

These have been sitting above my bench for a long time now and I don't expect
I will ever get around to them. So they are for sale. The boxes were opened
when they arrived to make sure they survived shipping, but haven't been
touched since. The TAPR interface is unbuilt. I prefer to sell both unts
together and will not consider selling the EVM alone as long as the TAPR
interface is unsold. Price for the pair is $230, including shipping CONUS.
Payment is to be made via USPO money order, preferably mailed in a way that
can be tracked. Tracking numbers will be provided by me when the units ship.

73- Rick, KY0Q

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

35. [hfsig] modems with embedded PPP

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Thu, 28 Feb 2002 20:13:32 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-65877-2002.02.28-14.45.29--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is a repeat of a message I just posted to the
datacomms-uk yahoogroup but someone might have a clue
here...

Although I was thinking V/UHF, it's equally applicable
to HF DSP modems.

Are there any radio FSK modems with an embedded PPP
protocol interface? A modem like this would be suitable for
directly connecting to Psion organisers, palmtops, web-pads,
PDAs, internet TV devices etc. with no need for any added
platform-specific amateur-specific software at all. Almost
every IP platform & device is PPP-capable off-the-shelf,
and many are difficult to alter. Having a fat enough chip
in the modem to do PPP might only cost £5 more than a
minging PIC doing some brain-dead protocol. And the
internet is awash with sourcecode for PPP.

It makes a lotta sense to me anyhow.

>From my experience, typical club amateurs spend a lot of
time discussing and sorting out problems with PC software; I
get more e-mails circulating round the club about this
than about radio! A modem unit you simply plug in and goes
and makes all your internet programs work over radio has a
lot of appeal.

(From my POV, my PC at home is tied up by the rest of the
family, and I want to keep my radio mobile. I want to go
IP packet, and PDAs seem right for it. But the loose ends
don't seem to join up at the moment.)

Ant, M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

March 2002

Original source file: hfsig.0203
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0203

1. [hfsig] Re: modems with embedded PPP

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Fri, 01 Mar 2002 09:17:00 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-65987-2002.03.01-02.48.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony N Martin wrote:

> Are there any radio FSK modems with an embedded PPP
> protocol interface? A modem like this would be suitable for
> directly connecting to Psion organisers, palmtops, web-pads,
> PDAs, internet TV devices etc. with no need for any added
> platform-specific amateur-specific software at all. Almost
> every IP platform & device is PPP-capable off-the-shelf,
> and many are difficult to alter. Having a fat enough chip
> in the modem to do PPP might only cost £5 more than a
> minging PIC doing some brain-dead protocol. And the
> internet is awash with sourcecode for PPP.

There are TNCs which utilise SLIP (TFSLIP? for TNC2, Xnet). Still I
don't like that idea much, mainly because you have a low bandwith
point-to-point connection (the radio link) sometimes even with FEC
and ARQ and you use TCP/IP over it without adaption.
The result is that when throughput is bad the TCP layer starts
retransmissions which makes things even worse.

PC/FlexNet eg. uses a special adaption layer to drop the retransmissions
and uses
some other means to improve throughput. Of course this can also be
implemented in your
modem but I doubt that this is still only 5 pounds more... and the most
interesting
question is: who is going to do this?

> >From my experience, typical club amateurs spend a lot of
> time discussing and sorting out problems with PC software; I
> get more e-mails circulating round the club about this
> than about radio! A modem unit you simply plug in and goes
> and makes all your internet programs work over radio has a
> lot of appeal.

Yes, but it does not last for long. We had this here in Germany in 1997
when
PC/Flexnet made TCP/IP over Windows very easy to use. Many people
created WWW pages
etc. but overall activity is very low now (ISDN or ADSL are so much
faster than
amateur radio - even compared to our 76k8 kbit/s FSK modems on UHF).

73' Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: modems with embedded PPP

From: "Ulf Kumm" <u.kumm@symek.de>
Date: Fri, 1 Mar 2002 09:55:38 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-65989-2002.03.01-03.21.05--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----Ursprüngliche Nachricht-----
Von: Anthony N Martin <Anthony.N.Martin@marconi.com>
An: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Datum: Donnerstag, 28. Februar 2002 21:13
Betreff: [hfsig] modems with embedded PPP

>Are there any radio FSK modems with an embedded PPP
>protocol interface? ...
>It makes a lotta sense to me anyhow.

Anthony!

check the http://symek.com and find 'TNC3' related TNC.
These include a SLIP interface for direct communication
to standard browsers. However, the scripts for dialing
(=connect) and setup are somewhat different.

Similar (SLIP) EPROM for standard TNC2 are available as well.

I agree to Alexander's remarks that, in spite of the fact
that PPP interface to TNC makes a lot of sense, almost
no one really uses it. Maybe people who are able to make
such systems run are spoilt by the high speed wire links
they normally use. Downloading a normal .html including
some images might be quite boring using 9600 baud packet :-(

73! Ulf, DK9SJ

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: modems with embedded PPP

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 1 Mar 2002 21:31:49 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-66036-2002.03.01-16.03.48--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for the replies.

AFAICT it's possible to make Windows and Linux talk the
older SLIP protocol but it seems PPP has replaced it and
is now more universal. From my reading of RFC1661it
does not make any claims to backwards-compatability
with SLIP.

I agree it may be necessary to do some adaptation to IP
depending on the nature of the link. On long-haul HF a
duplex link is pretty much the only way to go for IP,
as high-speed modems take far too long to turn round
a simplex link. If IP works over a 14k4 phone line it
should work over a 16k radio link. OK so there's
collisions to deal with, but the retransmission backoff
mechanisms that worked fine for ethernet should work
fine for radio.

I also agree that the lower data rates aren't very attractive
for IP or surfing in general; it would be fine for e-mail and
news on a PDA. It's a pity there isn't a broadcast
mechanism defined for NNTP to deliver news, as this
would also be a bandwidth saving. Even web-browsing
from mobile PDAs doesn't need as much BW as a
desktop as it can't display much and you won't be doing
5MB downloads. I hope the amateur IP network isn't full of
spam and banner ads!

But if I want to get on this data networking thing I have to
start with what exists before cranking up the data rates
with even less common formats. I know IP at 9600 is
next to useless, so I expect to be pushing for faster rates
as soon as I'm active. If the current node operators won't
do it then I'll start doing it. Are you suggesting people
give up on amateur radio packet because it's slow?
Isn't that a heresy on TAPR?!

If people are giving up on amateur IP because of bad
experiences then should we dump all the old modems
in the trash and make sure people start off with 64kb/s?
In fact you've hit on a darn good reason we should not
support backwards compatability! We desperately
need more frequent obsolescence. We need a lever
to force people onwards in the hobby. Otherwise we
potter about in a bubble of the past and everyone of
today thinks it's irelevant. A few people are die-hard
users of the old 1200 baud packet and DX clusters but
you won't get any new users with packet in this state.

Packet was a great new idea at the time, and even
the regs got changed to enable it. We shouldn't
give up on it. We can make it great again.

ADSL has now become affordable in the UK - £23
per month now from Pipex. That's only 50% more than
my unmetered 56k dialup. Wireless links between fixed
sites are indeed only useful as backups to an internet
VPN. The crux is mobile access. The mobile phone
operators may show off their videophone mobile
demonstrators, but the reality of always-on affordable
mobile internet access is still off in the next decade;
that's if they can find the key apps that make customers
buy it. You've also got rural areas, where nobody will
give you broadband. And emergency traffic. I know the
county have got packet for emergency, but 1200 baud
is woefully inadequate if it ever had to be used.

Alexander - you said flexnet uses an adaptation layer
for IP - does that make it incompatible with other systems?
I've got the flexnet files ready on a floppy to load on my
old Win3.1 laptop and use it with a TMS320C50 DSK. It
gets me a baseline system without spending a penny.
Not what I want to use on-air but useable for link testing
and debugging other systems off-air.

I have been offered EPROM code for TNC2 by G3ZFR
which does PPP which I'll have a go at. I was mildly
shocked to find he wrote PPP in assember! TNC2s
were designed with Z-80s somewhere back in the
dawning mists of the microprocessor in the last century.
I've got stacks of old Z-80 bits so I might have some fun
with old retro hardware construction. OTOH I could drag
TNC2 kicking and screaming into the 21st century with a
Z-80 FPGA core and some HDL from the YAM modem.
We might get something scalable to megabits and won't
run out of steam when I want to push the envelope.

I'm trying very hard not to waste lots of time pressing old
junk into amateur radio service (Win3.1, Z-80s) and to get
new ideas moving but it's actually quite hard to avoid.
There's so much legacy stuff still in use and support for
modern technologies is missing. Even today's radios are
not designed to experiment with, you end up modifying
some piece of old junk.

Anyhow, this is wandering OT for HFSIG, old friends.
Should   I join some other SIGs for high-speed packet
or IP packet?

Sevens and threes, Ant M1FDE, thanks for the info.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: hfsig digest: March 01, 2002

From: "Pat Snyder" <pat_snyder@sil.org>
Date: Mon, 4 Mar 2002 09:00:41 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-66390-2002.03.03-20.09.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony:

As your initial message appeared to be directed to possible HF data modems
and their use for IP over HF here is a bit of information about the SCS
PTC-II modem. This is from their site, listed under the "commercial" link.

An earlier section goes into detail of the "Hayes compatible mode" of this
software set that is mentioned in this section. I wanted to keep my post as
short as possible so I only put up the specific IP related overview. The
total document is some 34 pages.

I have no direct links to SCS. Although I have used a number of their
modems over the years. For HF I have found the PTC-II, in its various
forms, to be an excellent modem - although a bit spendy. The IIe has helped
to address the cost factor a bit though.

Pat Snyder
K4PAT/DU2

=======

1.2 PACTOR-IP-Bridge

1.2.1 Principle of the PACTOR-IP-Bridge

The PACTOR-IP-Bridge (PIB) is a new Network-Integration-Protocol developed
by SCS. It
combines several sub-protocols in a functional and easy to use way. The
dominant protocols
in the Internet like TCP/IP, as well as the Point-to-Point-Protocol (PPP),
which has become
standard for establishing the link of Internet applications, are combined
with PACTOR-II.
The result of this intelligent protocol combination is a data-transparent
and relatively fast
Internet access via HF-radio using standardized user interfaces. The PTC-II
appears to
attached PC´s like a Hayes compatible "telephone modem" (refer to "Hayes
compatible
mode") and locally takes over both, the complete PPP and TCP/IP handling.
Except for a
minimum fraction of protocol-overhead, the physical PACTOR-II link only
carries useful
data. The huge amount of overhead of the TCP/IP and PPP protocols (which are
designed for
broad banded wired links) is reduced to the absolute minimum required. By
locally carrying
out the PPP protocol between the PC and the PTC-II a further decisive
advantage arises:
Because of the very short timeouts, PPP used to be nearly impossible over
slow communica-tion channels with relatively large delays. These timeout
problems are now all solved by the
PACTOR-IP-Bridge.

Summarizing the qualities of the PIB:

TCP/IP-transparent and relatively fast Internet access via HF-radio.

All Internet-services are accessible via PACTOR-II,
     e.g. E-Mail (SMTP/POP3), FTP, HTTP, ...

Up to 4 Internet-channels ("sockets") over one physical PACTOR-link.

Extreme compression of the TCP/IP- and PPP-"overhead".

Full PPP-compatibility: Use of common client/server-software, like Netscape,
Out-look,Eudora and others is possible.

Easy embedding and configuration under all common operating systems.

No "timeout"-problems on PPP and TCP/IP.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Pakratt pk-232mbx

From: No Email <no_email_uk@yahoo.co.uk>
Date: Wed, 27 Mar 2002 15:31:51 +0000 (GMT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-70935-2002.03.27-10.04.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I have an old PakRatt PK-232MBX TNC connected
to a PC running Hyperterminal.

The TNC came without a manual and appears to be
running in Kiss mode.

Does anyone know who to get these TNC's OUT of
Kiss mode or know of a website with some info
on these TNC's ?

Disconnecting the internal battery to go back to
factory defaults appeared to make no difference.

Trevor M5AKA

_____
Do You Yahoo!?
Everything you'll ever need on one web page
from News and Sport to Email and Music Charts
http://uk.my.yahoo.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: Pakratt pk-232mbx

From: "Greg Gross" <satcomm5@mindspring.com>
Date: Thu, 28 Mar 2002 11:38:21 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-71136-2002.03.28-12.18.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello and Greetings,
    I have a PK-900 by AEA and you give 3 Crtl C in a row to return to
terminal mode.

73's
Greg
KE4ROL

----- Original Message -----
From: "No Email" <no_email_uk@yahoo.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Wednesday, March 27, 2002 9:31 AM
Subject: [hfsig] Pakratt pk-232mbx

> Hi,
>
> I have an old PakRatt PK-232MBX TNC connected
> to a PC running Hyperterminal.
>
> The TNC came without a manual and appears to be
> running in Kiss mode.
>
> Does anyone know who to get these TNC's OUT of
> Kiss mode or know of a website with some info
> on these TNC's ?
>
> Disconnecting the internal battery to go back to
> factory defaults appeared to make no difference.
>
> Trevor M5AKA
>
>
>
> _____
> Do You Yahoo!?

> Everything you'll ever need on one web page
> from News and Sport to Email and Music Charts
> http://uk.my.yahoo.com
>
> ---
> You are currently subscribed to hfsig as: satcomm5@mindspring.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Pakratt pk-232mbx

From: "fbergeret" <fbergeret@ges.fr>
Date: Fri, 29 Mar 2002 09:11:39 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-71309-2002.03.29-02.49.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi folks,

You must add 3 seconds of waiting before and after the 3 CTRL-C (no RS232 activity).

73's
François
F6HQZ

-----Message d'origine-----
De : bounce-hfsig-12268@lists.tapr.org
[mailto:bounce-hfsig-12268@lists.tapr.org]De la part de Greg Gross
Envoyé : jeudi 28 mars 2002 18:38
À : TAPR HF Special Interest Group
Objet : [hfsig] Re: Pakratt pk-232mbx

Hello and Greetings,
    I have a PK-900 by AEA and you give 3 Crtl C in a row to return to
terminal mode.

73's
Greg
KE4ROL

----- Original Message -----
From: "No Email" <no_email_uk@yahoo.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Wednesday, March 27, 2002 9:31 AM
Subject: [hfsig] Pakratt pk-232mbx

> Hi,
>
> I have an old PakRatt PK-232MBX TNC connected
> to a PC running Hyperterminal.
>
> The TNC came without a manual and appears to be
> running in Kiss mode.
>
> Does anyone know who to get these TNC's OUT of
> Kiss mode or know of a website with some info
> on these TNC's ?
>
> Disconnecting the internal battery to go back to
> factory defaults appeared to make no difference.
>
> Trevor M5AKA
>
>
>
> _____
> Do You Yahoo!?
> Everything you'll ever need on one web page
> from News and Sport to Email and Music Charts
> http://uk.my.yahoo.com
>
> ---

> You are currently subscribed to hfsig as: satcomm5@mindspring.com
> To unsubscribe send a blank email to leave-hfsig-12268U@lists.tapr.org
>

You are currently subscribed to hfsig as: fbergeret@ges.fr
To unsubscribe send a blank email to leave-hfsig-12268U@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Pakratt pk-232mbx

From: Ricardo Trujillo <hk4bha@comcast.net>
Date: Fri, 29 Mar 2002 20:13:52 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-71448-2002.03.29-19.46.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You could be in host mode, or kiss mode.
The sequence to exit Host mode is: CTRL-A O H O N CTRL-W
or in hex notation: $01 $4F $48 $4F $4E $17

And to exit Kiss mode: $C0 $FF $C0

Hope this helps.
73,
Ricardo, W3/HK4BHA

----- Original Message -----
From: "No Email" <no_email_uk@yahoo.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Wednesday, March 27, 2002 10:31 AM
Subject: [hfsig] Pakratt pk-232mbx

> Hi,
>
> I have an old PakRatt PK-232MBX TNC connected
> to a PC running Hyperterminal.
>
> The TNC came without a manual and appears to be
> running in Kiss mode.
>
> Does anyone know who to get these TNC's OUT of
> Kiss mode or know of a website with some info
> on these TNC's ?
>
> Disconnecting the internal battery to go back to
> factory defaults appeared to make no difference.
>
> Trevor M5AKA
>
>
>
> _____
> Do You Yahoo!?
> Everything you'll ever need on one web page
> from News and Sport to Email and Music Charts
> http://uk.my.yahoo.com
>
> ---
> You are currently subscribed to hfsig as: hk4bha@comcast.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Pakratt pk-232mbx

From: "Greg Gross" <satcomm5@mindspring.com>
Date: Sun, 31 Mar 2002 04:01:31 -0600
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-71660-2002.03.31-04.42.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello and Greetings,
    Here is the URL for TimeWave. They service the AEA products now...

http://www.timewave.com/index.html

73's
Greg
KE4ROL

----- Original Message -----
From: "No Email" <no_email_uk@yahoo.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Wednesday, March 27, 2002 9:31 AM
Subject: [hfsig] Pakratt pk-232mbx

> Hi,
>
> I have an old PakRatt PK-232MBX TNC connected
> to a PC running Hyperterminal.
>
> The TNC came without a manual and appears to be
> running in Kiss mode.
>
> Does anyone know who to get these TNC's OUT of
> Kiss mode or know of a website with some info
> on these TNC's ?
>
> Disconnecting the internal battery to go back to
> factory defaults appeared to make no difference.
>
> Trevor M5AKA
>
>
>
> _____
> Do You Yahoo!?
> Everything you'll ever need on one web page
> from News and Sport to Email and Music Charts
> http://uk.my.yahoo.com
>
> ---
> You are currently subscribed to hfsig as: satcomm5@mindspring.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

April 2002

Original source file: hfsig.0204
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0204

1. [hfsig] Wide band digital modes.

From: Eduardo Jacob <edu@kender.es>
Date: Sun, 07 Apr 2002 09:39:25 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72718-2002.04.07-02.13.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I forward a message intended to generate some discussions. I think the
subject is interesting.

Eduardo/EA2BAJ

>Date: Sat, 06 Apr 2002 07:23:28 +0000
>From: Peter Martinez <Peter.Martinez@btinternet.com>
> >From Peter G3PLX
>
>I recently highlighted a potential problem which arises because our
>present bandplans and license regulations separate amateur-band activity
>into "voice" and "telegraphy" in order to minimise potential
>interference between these different activities. I pointed out that the
>main reason why this has always worked well in the past has been because
>voice modes have always been wide-band (3 kHz) and telegraphy modes have
>always been narrow (<500Hz), and there are very sound reasons why mutual
>interference is a mimimum if signals which are sharing the same part of
>the spectrum are of similar bandwidths, or if you look at it from the
>opposite viewpoint, there would be severe conflict if signals of vastly
>different bandwidths had to share the same spectrum.
>
>I raised this point because of the emergence of a class of new digital
>modes, of which Pactor-3 is the first, which cannot be handled properly
>by the present bandplans and license regulations, since they are both
>"telegraphy" and "wide". If the bandplans and rules stay as they are,
>there is going to be severe conflict if such wide digital modes are
>forced to share spectrum with narrow digital modes such as PSK31.
>
>I raise the subject again because I have just heard some Pactor 2
>activity on the 10MHz band. This raises the problem to a new level. Most
>amateurs will be aware that we share this band with other non-amateur
>users who have priority. In order to minimise the potential for
>interference to the primary users, some countries prohibit SSB on this
>band. In other countries, although SSB is legal, the recognised IARU
>bandplan discourages SSB. The principle behind this is that by
>permitting only narrow-band modes on 10MHz, the potential for
>inteference to the primary users is minimised. Pactor-3, which is
>digital by name but wide-band by nature, has effectively "escaped" onto
>10MHz through the loophole which I have highlighted.
>
>If we accept that the traditional rules which keep voice and telegraphy
>activity separate were designed to minimise conflict, and we accept that
>conflict is worst when modes of different bandwidths are forced to
>share, then we need to change the rules quickly to control the
>potential problems of these new wide-band digital modes.
>
>73
>Peter

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: Wide band digital modes.

From: Bruno <kf6qdp@amsat.org>
Date: Sun, 07 Apr 2002 08:45:29 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72738-2002.04.07-11.19.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Interesting dilemma.

However, such wideband data modes have existed for several years now.
For example, HAL's "CLOVER-2000" is a 3000bps/2kHz version of the 500Hz
wide CLOVER-II format.

This modem was never really adopted by ham radio users partly because of
the fact that it was to wide. (I say "partly" because this restriction
does not exist in every country).

This being said, I fully agree with Peter's Email. IMHO, one of the
important aspects of ham radio is the ability to experiment with new
modes as long as the protocol and data is exchanged in a non-secure
format (i.e. no ciphered data, published protocol, etc.) Restricting the
use with the 1kHz/TTY and 3kHz/Voice does not promote experimentation ;-)

However, even if the various regulatory bodies "update" their rules, we
will still be faced with the inevitable "not in my backyard" mentality.
Just look at what happened when PSK31, MFSK, MT-63 (et al) were
introduced. People found these modes great... but no one wanted them in
"their" part of the band. PSK-31 survived because it took-up so little
space. PTC-III, Clover-2000 and other MIL-110A/B formats would surely
"not" be welcomed on the ham bands.

More food for thought ;-)

Bruno, KF6QDP/VE2EQ
Oceanside, California
ITU: DM13ie

On Sun, 07 Apr 2002 09:39:25 +0200
Eduardo Jacob <edu@kender.es> wrote:

> I forward a message intended to generate some discussions. I think the
> subject is interesting.
>
>   Eduardo/EA2BAJ
>
> >Date: Sat, 06 Apr 2002 07:23:28 +0000
> >From: Peter Martinez <Peter.Martinez@btinternet.com>
> > >From Peter G3PLX
> >
> >I recently highlighted a potential problem which arises because our
> >present bandplans and license regulations separate amateur-band activity
> >into "voice" and "telegraphy" in order to minimise potential
> >interference between these different activities. I pointed out that the
> >main reason why this has always worked well in the past has been because
> >voice modes have always been wide-band (3 kHz) and telegraphy modes have
> >always been narrow (<500Hz), and there are very sound reasons why mutual
> >interference is a mimimum if signals which are sharing the same part of
> >the spectrum are of similar bandwidths, or if you look at it from the
> >opposite viewpoint, there would be severe conflict if signals of vastly
> >different bandwidths had to share the same spectrum.
> >
> >I raised this point because of the emergence of a class of new digital
> >modes, of which Pactor-3 is the first, which cannot be handled properly
> >by the present bandplans and license regulations, since they are both
> >"telegraphy" and "wide". If the bandplans and rules stay as they are,
> >there is going to be severe conflict if such wide digital modes are
> >forced to share spectrum with narrow digital modes such as PSK31.
> >
> >I raise the subject again because I have just heard some Pactor 2
> >activity on the 10MHz band. This raises the problem to a new level. Most
> >amateurs will be aware that we share this band with other non-amateur
> >users who have priority. In order to minimise the potential for
> >interference to the primary users, some countries prohibit SSB on this
> >band. In other countries, although SSB is legal, the recognised IARU
> >bandplan discourages SSB. The principle behind this is that by
> >permitting only narrow-band modes on 10MHz, the potential for
> >inteference to the primary users is minimised. Pactor-3, which is
> >digital by name but wide-band by nature, has effectively "escaped" onto
> >10MHz through the loophole which I have highlighted.
> >
> >If we accept that the traditional rules which keep voice and telegraphy
> >activity separate were designed to minimise conflict, and we accept that
> >conflict is worst when modes of different bandwidths are forced to
> >share, then we need to change the rules quickly to control the
> >potential problems of these new wide-band digital modes.
> >
> >73
> >Peter

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: Wide band digital modes.

From: David Schick <ds@purdue.edu>
Date: Sun, 07 Apr 2002 14:25:04 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72763-2002.04.07-13.58.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This made me curious enough to read the Part 97 rules again for digital emissions on the HF bands. By my reading, there is no "bandwidth" limit in the rules for digital emissions, simply the 300 baud rate limit, and the 1 kHz FSK tone spacing limit. Are modes like MT-63, which has a slow baud rate but occupy 3 KHz of bandwidth, illegal according to the rules? My reading is that any modem is allowed as long as it is less than 300 baud and is publicly documented, and has a tone spacing of less than 1 kHz if it is FSK. Is this correct? Are modes like MIL-STD 110A/B and Clover 2k legal on all data segments of the HF bands as long as they are transmitting under a 300 baud limit? Does the 300 baud limit apply to all digital modes?
I am most confused about why the FCC regulates baud rate when that may have little to do with the overall spectral occupancy of the digital mode.

I think there needs to be changes with our approach towards amateur radio. At the very least, we could try to use modern waveforms and error correction techniques in limited parts of the bands. This way we have modes with which we could make a serious network that would be able to carry civil communications in times of an emergency. However, it seems that the vast population of hams is unwilling to allow this to happen, mainly because they don't want to give up 'their' spectrum.

In order to counter this, I think we should put together a working list of wide-band digital frequencies for HF bands. Over time I believe it will become an acceptable alternative to relaying traffic with SSB or CW.

I am a young ham; I was licensed at age 15. Now I am 22, and my ham radio background inspired me to major in electrical engineering and learn more about the principles and techniques that go into designing digital modes. I grew up with the Internet, I remember going to ham club meetings when I was younger and seeing demonstrations of Linux packet gateways and Internet interaction, and I have experimented with both. The Internet is a neat innovation, and I think it does take some of the 'mystique' that used to be owned wholly by ham radio. Now regular people communicate regularly with people in foreign countries without the bother of large antennas and radios, and I think that is a good thing. But I don't believe that this means ham radio should be left to become an "antique club" of people unwilling to move away from the old ways of analog modulation techniques. While there certainly should be a place for people to enjoy that sort of thing, I think it is time for ham radio to get serious about allocating spectrum towards wideband digital HF modes. Nothing is going to replace that mystique that amateur radio once held, since the advent of the Internet more young people such as myself are involved in digital communications technology in some way or another. These young people would become hams in droves if we were able to put together a way of cooperatively using the HF bands for relatively high-speed digital transmissions.

I have read that the US military and various other federal agencies use HF ALE networks quite extensively for reliable telecommunications. I think it is time that the hams around the world put together a similar network in order to relay civil messages routinely and reliably. Amateur radio's charter commands that emergency communications be one of the services that amateur radio is to perform in exchange for its spectrum, and I think that time is neigh for us to set aside spectrum for that purpose.

Regards,
Dave W9OFA

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: Wide band digital modes.

From: "Lyle Johnson" <wa7gxd@msn.com>
Date: Sun, 7 Apr 2002 12:59:37 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72776-2002.04.07-15.33.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello!

> I am most confused about why the FCC regulates baud rate when that may
> have little to do with the overall spectral occupancy of the digital
> mode.

In 1977 the FCC tried to eliminate modes and make the HF band segments based on bandwidth only. There was a HUGE hue and cry raised by the Amateur community, and in the end all we got was approval to use ASCII. When we did packet in the early 80's, we initially just sent text so that packet could be deemed to be ASCII...

In the mid-80's we (at that time I was on the ARRL Digital Committee) tried to get the rules changed to allow bandwidth-related modes on HF, or at least in some sub-bands. Once again, the "old guard" make a lot of noise. "That's where I run AMTOR. You're gonna interfere with my RTTY. Hey! I want to operate CW there... CW is the most efficient mode of Amateur communications! Etc."

So, we have the outdated and hard-to-interpret rules of today.

Hard to interpret? Well, let's say I have a way to send digital voice in a 3 kHz bandwidth. Do I do this in the phone bands (it is voice, after all) or in the non-phone segment (it is data, after all).

This is the same mentality that causes people to think that warehousing valuable spectrum in little-used, "closed" repeaters is somehow in the spirit of Amateur radio.

Sigh.

We return you to regular programming...

Lyle KK7P

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: Wide band digital modes.

From: Bruno <kf6qdp@amsat.org>
Date: Sun, 07 Apr 2002 13:23:26 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72780-2002.04.07-15.57.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi David,

I also read the FCC and IC (Canada) rules pertaining to this. As you noticed, the FCC (and IC) rules are unclear. The reason is simple, they were written in a day when these modern types of data modes weren't even imagined.

Clover-2000 has a bit rate of 3000 bps but due to the complex waveforms used, it only results in a 61.5 Baud symbol rate. Thus, based on the Part 97 criteria, it should be permitted even if it requires a 2kHz bandwidth. However, people are hesitant until there is a clarification from the various regulating bodies. This is just a matter of time when they decide to change the wording in order to reflect the realities of HF Data modes based on DSP technology.

MIL-STD-188-110A/B permits SSB exchanges with bit rates up to 9600 bps... but it requires a 3kHz bandpass and exceeds the 300 Baud limit. These types of MIL modems are becoming smaller and more efficient (http://www.wavescience.com look at their PC-Card and PCI versions) although still costly until someone does like PC-ALE and makes it available to hams via a sound card.

My main concern is that of our ham radio community. As I mentioned many time, the problem lies with the "not in my backyard" syndrome. Nobody

want's to potentially lose their perceived right to use a certain mode
in a certain area. RTTY users hated the encroachment of MFSK.

Until we hams accept the fact that the ham bands are a "shared resource"
and that part of our mandate is to "experiment", then no matter what
happens at the FCC or IC, the presence of these new modes will
unfortunately result in "turf battles"... like when SSB was introduced.

It's a shame as modes like as Pactor-III, CLOVER-2000 and
MIL-STD-188-110A/B really make HF data exchanges much more efficient
than the older modes, including the AX.25 packet protocol.

Oh, by the way, MIL-STD-188-141A/B "ALE" is not a panacea either. It
does help facilitate the HF frequency selection, but unless properly
configured, it could actually be worse (I know, as many of our customers
either refuse to "tweak" the parameters or simply fail to learn).
There is a lot of "ALE/LINK+DATA" going on, and unfortunately, they are
not always optimized as the radio is not selecting the best channel ;-)
IMHO, I do not believe that ALE is appropriate for ham radio use. We
tend to "hunt" for contacts and navigate on all frequencies while ALE is
"channelized" and ignores non-ALE data being exchanged on a channel.
Thus, the possibility of interference is high. ALE definitely has its
place... but I question if it's in the ham radio service?

Interesting discussion ;-)

Bruno, KF6QDP/VE2EQ
Oceanside, California
ITU: DM13ie

On Sun, 07 Apr 2002 14:25:04 -0400
David Schick <ds@purdue.edu> wrote:

> This made me curious enough to read the Part 97 rules again for digital
> emissions on the HF bands. By my reading, there is no "bandwidth" limit
> in the rules for digital emissions, simply the 300 baud rate limit, and
> the 1 kHz FSK tone spacing limit. Are modes like MT-63, which has a
> slow baud rate but occupy 3 KHz of bandwidth, illegal according to the
> rules? My reading is that any modem is allowed as long as it is less
> than 300 baud and is publicly documented, and has a tone spacing of less
> than 1 kHz if it is FSK. Is this correct? Are modes like MIL-STD
> 110A/B and Clover 2k legal on all data segments of the HF bands as long
> as they are transmitting under a 300 baud limit? Does the 300 baud
> limit apply to all digital modes?
> I am most confused about why the FCC regulates baud rate when that may
> have little to do with the overall spectral occupancy of the digital
> mode.
>
> I think there needs to be changes with our approach towards amateur
> radio. At the very least, we could try to use modern waveforms and
> error correction techniques in limited parts of the bands. This way we
> have modes with which we could make a serious network that would be able
> to carry civil communications in times of an emergency. However, it
> seems that the vast population of hams is unwilling to allow this to
> happen, mainly because they don't want to give up 'their' spectrum.
>
> In order to counter this, I think we should put together a working list
> of wide-band digital frequencies for HF bands. Over time I believe it
> will become an acceptable alternative to relaying traffic with SSB or
> CW.
>
> I am a young ham; I was licensed at age 15. Now I am 22, and my ham
> radio background inspired me to major in electrical engineering and
> learn more about the principles and techniques that go into designing
> digital modes. I grew up with the Internet, I remember going to ham
> club meetings when I was younger and seeing demonstrations of Linux
> packet gateways and Internet interaction, and I have experimented with
> both. The Internet is a neat innovation, and I think it does take some
> of the 'mystique' that used to be owned wholly by ham radio. Now
> regular people communicate regularly with people in foreign countries
> without the bother of large antennas and radios, and I think that is a
> good thing. But I don't believe that this means ham radio should be
> left to become an "antique club" of people unwilling to move away from
> the old ways of analog modulation techniques. While there certainly
> should be a place for people to enjoy that sort of thing, I think it is
> time for ham radio to get serious about allocating spectrum towards

> wideband digital HF modes. Nothing is going to replace that mystique
> that amateur radio once held, since the advent of the Internet more
> young people such as myself are involved in digital communications
> technology in some way or another. These young people would become hams
> in droves if we were able to put together a way of cooperatively using
> the HF bands for relatively high-speed digital transmissions.
>
> I have read that the US military and various other federal agencies use
> HF ALE networks quite extensively for reliable telecommunications. I
> think it is time that the hams around the world put together a similar
> network in order to relay civil messages routinely and reliably.
> Amateur radio's charter commands that emergency communications be one of
> the services that amateur radio is to perform in exchange for its
> spectrum, and I think that time is neigh for us to set aside spectrum
> for that purpose.
>
> Regards,
> Dave W9OFA

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: Wide band digital modes.

From: Walt DuBose <dubose@texas.net>
Date: Sun, 07 Apr 2002 19:17:52 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72872-2002.04.07-20.49.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bruno wrote:
[stuff deleted]
>
> MIL-STD-188-110A/B permits SSB exchanges with bit rates up
> to 9600 bps...but it requires a 3kHz bandpass and exceeds
> the 300 Baud limit. These types of MIL modems are becoming
> smaller and more efficient (http://www.wavescience.com
> look at their PC-Card and PCI versions) although still
> costly until someone does like PC-ALE and makes it available
> to hams via a sound card.
>

        My problem with the WaveScience hardware is that
        it is ONLY run on Microsoft operating systems and
        you are tied into their hardware/software and there
        is little room for experimentation.

> My main concern is that of our ham radio community. As I
> mentioned many time, the problem lies with the "not in my
> backyard" syndrome. Nobody want's to potentially lose their
> perceived right to use a certain mode in a certain area.
> RTTY users hated the encroachment of MFSK.
>

        Yup!!!

> Until we hams accept the fact that the ham bands are a
> "shared resource" and that part of our mandate is to
> "experiment", then no matter what happens at the FCC or IC,
> the presence of these new modes will unfortunately result
> in "turf battles"... like when SSB was introduced.
>
> It's a shame as modes like as Pactor-III, CLOVER-2000 and
> MIL-STD-188-110A/B really make HF data exchanges much more
> efficient than the older modes, including the AX.25 packet
> protocol.
>

        I have used MIL-STD-188-110A/B/C modems real world
        going back to Desert Shield. They are just super.
        We were getting 100% data thruput with 100 watts on
        frequecies that were DEAD and where 5KW wouldn't
        make the connection.

> Oh, by the way, MIL-STD-188-141A/B "ALE" is not a panacea
> either. It does help facilitate the HF frequency selection,
> but unless properly configured, it could actually be worse
>(I know, as many of our customers either refuse to "tweak"

> the parameters or simply fail to learn). There is a lot of
> "ALE/LINK+DATA" going on, and unfortunately, they are not
> always optimized as the radio is not selecting the best
> channel ;-) IMHO, I do not believe that ALE is appropriate
> for ham radio use. We tend to "hunt" for contacts and
> navigate on all frequencies while ALE is "channelized" and
> <B>ignores non-ALE data being exchanged on a channel.<B>
        Emphasis added -- k5yfw
> Thus, the possibility of interference is high. ALE definitely
> has its > place... but I question if it's in the ham radio
> service?

        We also found this true during Desert Shield. We
        would be handling traffic on the frequency and the
        ALE/Link Data would step all over us.

        Walt/K5YFW

>
> Interesting discussion ;-)
>
> Bruno, KF6QDP/VE2EQ
> Oceanside, California
> ITU: DM13ie
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Wide band digital modes.

From: Bruno <kf6qdp@amsat.org>
Date: Sun, 07 Apr 2002 19:28:39 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72876-2002.04.07-22.02.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Please read my comments below...

On Sun, 07 Apr 2002 19:17:52 -0500
Walt DuBose <dubose@texas.net> wrote:

>   I have used MIL-STD-188-110A/B/C modems real world
>   going back to Desert Shield. They are just super.
>   We were getting 100% data thruput with 100 watts on
>   frequecies that were DEAD and where 5KW wouldn't
>   make the connection.

[KF6QDP] We use MIL-STD-188-110A/B on a regular basis... but what is "C" ?

> > Oh, by the way, MIL-STD-188-141A/B "ALE" is not a panacea
> > either. It does help facilitate the HF frequency selection,
> > but unless properly configured, it could actually be worse
> >(I know, as many of our customers either refuse to "tweak"
> > the parameters or simply fail to learn). There is a lot of
> > "ALE/LINK+DATA" going on, and unfortunately, they are not
> > always optimized as the radio is not selecting the best
> > channel ;-) IMHO, I do not believe that ALE is appropriate
> > for ham radio use. We tend to "hunt" for contacts and
> > navigate on all frequencies while ALE is "channelized" and
> > <B>ignores non-ALE data being exchanged on a channel.<B>
>   Emphasis added -- k5yfw
> > Thus, the possibility of interference is high. ALE definitely
> > has its > place... but I question if it's in the ham radio
> > service?
>
>   We also found this true during Desert Shield. We
>   would be handling traffic on the frequency and the
>   ALE/Link Data would step all over us.

[KF6QDP] When we design HF data systems, we always recommend that they
do not mix data and voice on the same net. Certain users follow this
rule and they are much more satisfied with the systems that those who
don't. By properly segregating the networks, you can set the data
network's ALE to a higher threshold that is more suited for data.
Conversely, you can optimize ALE for voice nets.

Unfortunately, although ALE modems do recognize each other and they
don't "clobber" themselves during ALE traffic, once the system has

switched to data, then ALE sounding and calls are sent indiscriminately.
The advantage of automated HF data nets is that even if data blocs are
destroyed, the ARQ system will auto-repeat (proprietary, FS-1052 or
STANAG-5066) and the data will get through. If the channel becomes
unusable, the ALE system will re-link on the next best one.

Another problem with ALE is the misunderstanding about "sounding". I
know some users who insist that they must sound every 20 minutes.
Multiply this by 50+ stations and you have a cacophony of ALE bursts. I
participated in a thesis document that studied the ratio of stations per
ALE group, the sounding cycles and efficiency. By following this
document, net administrators can know what are the "sweet spots". That
is, the number of stations per group for the type of traffic that needs
to be exchanged.
Unfortunately, very few ALE users are even aware of this. They simply
believe that ALE will miraculously find the best channel, period ;-)

On the plus side, the ALE modem can get AMD messages across the link at
or below noise level. This is a great tactical tool when the NCS simply
broadcasts AMD messages.

Bruno, KF6QDP/VE2EQ
Oceanside, California
ITU: DM13ie

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Wide band digital modes.

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 8 Apr 2002 12:51:13 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-72898-2002.04.08-07.25.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is it only the USA that have such modulation restrictions as legal licence
requirements? The UK has no such restrictions in the BR68 (licence
shedule).

The only restriction is "no pulse emissions below 1000MHz".

(25kHz BW is mentioned wrt to unattended data stations on 70MHz and
12.5kHz BW is mentioned wrt unattended DF beacons, but those
aren't very sigificant restrictions).

I have heard it said more than once "spread spectrum isn't allowed on
amateur bands" but methinks someone's been reading too many ARRL
publications :-)

PSK31 calling frequencies are now in the bandplans printed in my 2002
RSGB logbook, for all bands up to UHF. Most of the world is not slow to
adopt channels for digital modes. Our local radio club has a large
proportion of members past retirement age, but an evening on PSK31
was well received and a few have now taken up the mode. We are
distributing free CD-ROMS with lots of software for digital modes.

Bandplans are not regulatory, they are convention established by
amateur radio organisations.

On the HF bands that has to be international conventions between radio
societies of the world, and to a large extent may reflect actual usage
rather
than policy-making decisions. ARRL does not unilaterally set the HF
band-plans, does it?

HF amateur radio is international and I don't see it as within the
rights of one amateur to criticise another for use of certain bandwitdhs
and modulation if it isn't allowed within in his/her own national licence
rules. So I don't see it as possible that one nation's rules or the
attitudes of one radio society could control the bandplans.

Note UK amateurs don't have a free lunch; OTOH max power is 400W,
less than the USA. Our houses do tend to be much closer together,
I expect it's a reflection of the EMC effects of this.

Are licences in Europe a reflection of the CEPT rules and is it time the
USA came into line?

Ant, M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Wide band digital modes.

From: David Schick <ds@w9ofa.ath.cx>
Date: Mon, 08 Apr 2002 00:57:51 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-73142-2002.04.09-18.47.25--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > > <B>ignores non-ALE data being exchanged on a channel.<B>
> >
> >   Emphasis added -- k5yfw
> >
> > > Thus, the possibility of interference is high. ALE definitely
> > > has its > place... but I question if it's in the ham radio
> > > service?

I agree that ALE has its shortcomings in this regard, and I don't ever
seeing it being useful as a "I'm going to sit around and chew the rag" type
of mode. But I think there would be some value to a couple of channels set
aside on some of the amateur bands for an ALE net for "instant on" emergency
situations.

Unfortunately, it is obvious that such a net could easily be destroyed through
misconfiguration of software and hardware. It would take some sort of
"standard" data link layer and a "standard" set of protocol settings along
with the "standard" frequency lists. So, basically it's a pipe dream.

Regards,
Dave W9OFA

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] 2002 Digital BASH at Dayton Hamvention

From: "John R. Ackermann" <jra@febo.com>
Date: Tue, 09 Apr 2002 19:33:35 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-73144-2002.04.09-19.07.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Going to the Dayton Hamvention? Then plan to attend the annual Digital*BASH
sponsored by TAPR and the Miami Valley FM Association to be held on Friday,
May 17, 2002!

For reservations, please contact the TAPR office as described below.

What?
        An event for the digitally-inclined ham, featuring:
        * Buffet dinner (Prime Rib, Chicken, and Pasta)
        * Keynote Address (Speaker to be named)
        * TAPR special interest group meetings
        * "Birds of a Feather" gatherings

When?
        Friday evening, May 17, 2002
        Doors open at 7:00 pm; dinner served at 7:30 pm
        Speaker and meetings after dinner

Where?
        Kohler's Banquet Center, 4548 Presidential Way, Kettering
        (39 40.75N, 84 08.43W), about 6 miles SE of downtown Dayton --
        just off of East David Road. Detailed directions and maps are available
        on the TAPR web site (http://www.tapr.org/tapr/html/Fdayton.maps.html)
        or at the TAPR booth.

How?

Dinner requires advance registration and payment through TAPR.
Tickets will be available at the TAPR booth on Friday, though
we strongly encourage registration <before> Hamvention. The cost
is $25.00 per person, tax and tip included.

All amateurs are welcome to attend, enjoy the speaker, and
particpate in the meetings, although only those purchasing a dinner
can eat.

To register, contact:
PACK*BASH
c/o TAPR
8987-309 E. Tanque Verde Road #337
Tucson, AZ   85749-9399

Phone: 972-671-TAPR (8277)
Fax: 972-671-8716
Internet: tapr@tapr.org

Visa/Mastercard Accepted

Who?
PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet Radio,
the national leader in digital communication -- and the Miami
Valley FM Association, Dayton's packet radio club.

For more information (including maps), go to
http://www.tapr.org/tapr/html/dayton.html#packetbash, or send email to
tapr@tapr.org.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: Wide band digital modes.

From: "stephane@rochebrune.org" <stephane@rochebrune.org>
Date: Thu, 11 Apr 2002 12:54:32 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-73451-2002.04.11-11.01.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Stephane -> Bruno

Hi from France,

>Another problem with ALE is the misunderstanding about "sounding". I
>know some users who insist that they must sound every 20 minutes.
>Multiply this by 50+ stations and you have a cacophony of ALE bursts. I
>participated in a thesis document that studied the ratio of stations per
>ALE group, the sounding cycles and efficiency.

Sounds good. Is this document available on internet ?

>By following this document, net administrators can know what are the
>"sweet spots". That
>is, the number of stations per group for the type of traffic that needs to
>be exchanged.

If not, could you tell us more about the previous paragraph, i.e. how to
compute the station per group ratio ...

Best regards

Stephane (Oleron Island - France)

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Digital BASH Update

From: John Ackermann   N8UR <jra@febo.com>
Date: Wed, 24 Apr 2002 11:21:33 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-76156-2002.04.24-10.58.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

We're very happy to announce that Bdale Garbe, KB0G, will be the keynote
speaker at the TAPR/MVFMA Digital BASH on Friday evening at Hamvention.

Bdale is one of the long-time "good guys" in the digital radio and amateur satellite worlds. He was in the middle of the early work on KA9Q's "NET" and "NOS" programs, pioneered megabit-rate packet radio, and in the satellite world was heavily involved in the RUDAK and AO-40 GPS experiments. Back in the Old Days, he was a board member and Vice President of TAPR, and remains one of TAPR's best friends. On a different front, Bdale was just elected as Debian Project Leader, so he now oversees one of the major Linux distributions -- and the one that is by far the most ham-friendly. Bdale works in the Linux development group at HP, and in his spare (?) time does VHF/UHF/microwave contesting and roaming.

Bdale's talk will blend all of these interests into an entertaining and informative presentation titled "From Bits in the Basement to Debian -- and Back Again".

You can find more information about the Digital BASH and TAPR's other Hamvention activities at http://www.tapr.org/tapr/dayton/.

See you there!

73,
John

John Ackermann   N8UR   jra@febo.com   http://www.febo.com
President, TAPR   n8ur@tapr.org   http://www.tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Ovenaire Precision Xtal Osc.

From: Alberto di Bene <dibene@usa.net>
Date: Thu, 25 Apr 2002 23:06:02 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: Time Nuts <time-nuts@febo.com>,
        TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Message-ID: <LYR4070-76481-2002.04.25-16.41.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am looking for the pinout and specs of the
Precision Crystal Oscillator Mod. OSC 49-11
made by Ovenaire Audio Carpenter.
It is an ovenized unit, 3 MHz, found at an hamfest.
I have been unable to find anything on the Internet.

Thanks for any data

73 Alberto I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Fwd: Pactor 3

From: Eduardo Jacob <jtpjatae@bi.ehu.es>
Date: Tue, 30 Apr 2002 13:36:35 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-77208-2002.04.30-07.14.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Date: Tue, 30 Apr 2002 06:42:41 +0100
From: Peter Martinez <Peter.Martinez@btinternet.com>
Subject: [psk31] Pactor 3
Sender: psk31-admin@bipt106.bi.ehu.es
 >From Peter G3PLX

This is strictly-speaking off-topic, but the subject potentially affects
ALL narrow-band digital modes, and that includes PSK31, RTTY, Pactor 1,
Pactor 2, and I will include CW too just for completeness.

The company SCS which manufactures the PTC digital mode terminal, and which
invented Pactor, has now released the latest Pactor-3 mode, which can be
retro-installed into existing PTC-2e (From EA2BAJ: and PTC-IIPro, and most
PTC-II) hardware, and will be available in new purchases.

This new mode is much wider bandwidth that Pactor-1 or Pactor-2. It can be up to 2.4 kHz wide, so that makes it as wide as an SSB emission. If mode-3 is enabled in two Pactor-equipped stations, one Pactor station calling the other on a channel which is 500Hz wide with other QSOs either side, could switch without warning to 2.4 kHz wide, WITHOUT CHECKING THAT THE ADJACENT CHANNELS ARE CLEAR. It is therefore very important that PT3 is ONLY used on channels which are 2.4 kHz wide before the QSO starts.

The present worldwide bandplans do not distinguish between digital modes of different widths, they just say that all digital modes should operate in specific bands. I have informed RSGB about the latest developments, and asked them to inform IARU and debate this urgently at the next IARU meeting. If nothing is done to change the bandplans, there will be a great potential for conflict. I believe that the intention of the bandplans has always been to keep modes of different widths separate, and that this intention has always been met in the past, but only because digital modes were always narrow-band. Now that there will be wide digital modes, I think we need to change the way the bandplan is worded, so that we CONTINUE to separate wide and narrow modes. THIS MEANS PUTTING PT3 HIGHER IN THE BAND THAN THE PRESENT NAARROW-BAND DIGITAL MODES.

In fact on the popular amateur bands, 80, 40, 20, this can be done without a change, at least it can in the region 1 IARU bandplan, because the sections 3600-3620, 7040-7045, and 14101-14112 are already shared between digital modes and SSB.

I would therefore ask anyone who receives this reflector to copy this message to other discussion groups, especially those concerned with all narrow-band amateur modes including PSK31, RTTY, Pactor, and CW, with the intention to agree that ALL Pactor-3 activity should be inside the sections of the bands that I have shown above, and certainly NOT below 3600, 7040, and 14100 where narrow-band modes are normally used. In the case of 10MHz, it is well-known that this is a shared band and the IARU bandplan prohibits SSB because of this. PT3 should therefore also be prohibited on this band. This may all change in September if there is some IARU resolution agreed at the next IARU region 1 meeting.

73 Peter

Eduardo Jacob - Area de Ingenieria Telematica
Departamento de Electronica y Telecomunicaciones
ETSII y de IT Tel: +34 94 601 4214
UPV / EHU Fax: +34 94 601 4259
Alda Urquijo s/n E-mail: jtpjatae(arroba)bi.ehu.es
E-48013 - Bilbao (Spain)
PGP Key available: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] Re: Fwd: Pactor 3

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Tue, 30 Apr 2002 21:46:46 +1000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-77209-2002.04.30-07.21.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, Apr 30, 2002 at 01:36:35PM +0200, Eduardo Jacob wrote:
> CHANNELS ARE CLEAR. It is therefore very important that PT3 is ONLY used on
> channels which are 2.4 kHz wide before the QSO starts.

MT63 also needs a wider channel - 1kHz is the default, 2kHz is an
option (and so is 500Hz). Currently it is operated around 14.109 MHz.

Hamish

--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

May 2002

Original source file: hfsig.0205
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0205

1. [hfsig] Spring _Packet_Status_Register_ Available Online

From: "John R. Ackermann" <jra@febo.com>
Date: Thu, 02 May 2002 20:26:04 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-77555-2002.05.02-20.01.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As the subject says... the new issue of TAPR's journal, the
_Packet_Status_Register_, is now available online. You can go to
http://www.tapr.org/tapr/html/Fpsr.html, or obtain it via ftp from
ftp://ftp.tapr.org/psr/Spring_83_2002.pdf. You'll need Adobe Acrobat or
other PDF file reader to view the document.

Stan Horzepa, WA1LOU, has taken the reins as the PSR's editor, and I'd like
to thank him for his great work on this issue. Please send comments,
suggestions, or -- best of all -- articles to Stan at psr@tapr.org.

73,
John N8UR

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] P.C Based H.F Channel Simulator

From: "Charles H. Brain" <chbrain@dircon.co.uk>
Date: Tue, 21 May 2002 14:40:55 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-80161-2002.05.21-09.13.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A while back there was a series of items on the sig about a P.C based
HF channel simulator, does someone have a url for this?

A couple of folk at Dayton enquired about it and I didn't have the url
at the time.

- Charles G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] RE: P.C Based H.F Channel Simulator

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Tue, 21 May 2002 06:47:26 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-80166-2002.05.21-09.23.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Try http://www.qsl.net/ae4jy

Lyle KK7P

> A while back there was a series of items on the sig about a P.C based
> HF channel simulator, does someone have a url for this?

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] RE: P.C Based H.F Channel Simulator

From: rolf.folkesson@allgon.se
Date: Tue, 21 May 2002 15:59:18 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-80179-2002.05.21-09.34.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Charles !

The PC-based simulator(free-ware, using the sound-blaster) that comes to
my mind is Michael's - DL6IAK, IONOS.
The link to his homepage is :

http://www.qsl.net/dl6iak/download/download.htm

where you can also can find some other interesting PC- programs.

Best 73's de Rolf/ SM0HP

-----Original Message-----
From: Charles H. Brain [mailto:chbrain@dircon.co.uk]
Sent: Tuesday, May 21, 2002 3:41 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] P.C Based H.F Channel Simulator

A while back there was a series of items on the sig about a P.C based
HF channel simulator, does someone have a url for this?

A couple of folk at Dayton enquired about it and I didn't have the url
at the time.

- Charles G4GUO

You are currently subscribed to hfsig as: rolf.folkesson@allgon.se
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: P.C Based H.F Channel Simulator

From: Tomi Manninen <tpm@prkele.tky.hut.fi>
Date: Wed, 22 May 2002 14:16:09 +0300 (EEST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-80347-2002.05.22-06.51.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 21 May 2002, Charles H. Brain wrote:

> A while back there was a series of items on the sig about a P.C based
> HF channel simulator, does someone have a url for this?
>
> A couple of folk at Dayton enquired about it and I didn't have the url
> at the time.

Johan KC7WW also had a GPL'd HF channel simulator for Linux on his web
page some time ago but apparently not anymore. I have an "improved" (more
like hacked) version of it in my use here and I could upload it somewhere
if people are interested.

--
Tomi Manninen   Internet: oh2bns@sral.fi
OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: P.C Based H.F Channel Simulator

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 22 May 2002 08:11:22 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-80393-2002.05.22-10.47.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It's still there ... see at bottom of page at:
http://www.peak.org/~forrerj/SIMULR/index.html

One nice feature here is one can use the UNIX pipes and feed
data in/out of the simulator without going through the sound card. That
way one can simulate at machine speed. Of course it can also use the
soundcard as in/out. Also note that it has options for (attempts at least)
simulating with noise background other than the usual Gaussian.

73,

Johan, KC7WW

On Wed, 22
May 2002, Tomi Manninen wrote:

> On Tue, 21 May 2002, Charles H. Brain wrote:
>
> > A while back there was a series of items on the sig about a P.C based
> > HF channel simulator, does someone have a url for this?
> >
> > A couple of folk at Dayton enquired about it and I didn't have the url
> > at the time.
>
> Johan KC7WW also had a GPL'd HF channel simulator for Linux on his web
> page some time ago but apparently not anymore. I have an "improved" (more
> like hacked) version of it in my use here and I could upload it somewhere
> if people are interested.
>
> --
> Tomi Manninen   Internet: oh2bns@sral.fi
> OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
> KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org
>
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] RGB Spectrum display

From: "Charles H. Brain" <chbrain@dircon.co.uk>
Date: Thu, 23 May 2002 19:44:55 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-80619-2002.05.23-14.16.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone have the magic formula to convert the magnitudes
of an FFT into nice RGB colours / colors ?

All the ones I try except for grey / gray seem awfull!

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: RGB Spectrum display

From: Alberto di Bene <dibene@usa.net>
Date: Thu, 23 May 2002 22:12:36 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-80636-2002.05.23-15.45.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Charles H. Brain" wrote:

> Does anyone have the magic formula to convert the magnitudes
> of an FFT into nice RGB colours / colors ?
>
> All the ones I try except for grey / gray seem awfull!
>
> - Charles

There are no magic formulas, it all boils down to your preferences.

Please have a look at my program Spectran, which you can find here :
http://www.weaksignals.com
If that palette suits your needs, I can then send you the relevant code.
Basically the magnitude is used as an index into an array of
RGB values, computed from an HSV (Hue, Saturation, Value)
color space, keeping Hue constant, and changing monotonically
Saturation and Value. The computation was done once for all
with a simple Matlab routine, which you can have as well if you
want it. It accepts as parameter the Hue you want to give to your palette.

73 Alberto I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: RGB Spectrum display

From: "Moe Wheatley" <ae4jy@mindspring.com>
Date: Sun, 26 May 2002 11:01:13 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-81327-2002.05.26-10.39.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This one isn't magic but it is colorful. It creates a lookup table to convert
an input range 0-255 into 256 RGB colors. Colors go from black to blue to green
to yellow to red.

```
  for(int i=0; i<256; i++)
  {
   if( (i<43) )
    m_ColorTbl[i] = RGB( 0,0, 255*(i)/43);
   if( (i>=43) && (i<87) )
    m_ColorTbl[i] = RGB( 0, 255*(i-43)/43, 255 );
   if( (i>=87) && (i<120) )
    m_ColorTbl[i] = RGB( 0,255, 255-(255*(i-87)/32));
   if( (i>=120) && (i<154) )
    m_ColorTbl[i] = RGB( (255*(i-120)/33), 255, 0);
   if( (i>=154) && (i<217) )
    m_ColorTbl[i] = RGB( 255, 255 - (255*(i-154)/62), 0);
   if( (i>=217)  )
    m_ColorTbl[i] = RGB( 255, 0, 128*(i-217)/38);
  }
```

moe

----- Original Message -----
From: "Charles H. Brain" <chbrain@dircon.co.uk>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Thursday, May 23, 2002 02:44 PM
Subject: [hfsig] RGB Spectrum display

> Does anyone have the magic formula to convert the magnitudes
> of an FFT into nice RGB colours / colors ?
>
> All the ones I try except for grey / gray seem awfull!
>
> - Charles
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

June 2002

Original source file: hfsig.0206
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0206

1. [hfsig] SSB offset correction

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Wed, 12 Jun 2002 19:05:21 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84602-2002.06.12-18.22.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've got a quick question. What would be the suggested method
of shifting the pitch of a wide passband by X Hz be? Say I
recorded a single sideband roundtable and some of the members
were off. After the fact, what method should I use to correct
each of the sections of the recording so that they all sound
properly tuned?

I'm actually looking for a way to *mistune* a designated good
sample by some offset before feeding it into a voice codec--
Speex--to see how that messes with the assumption that the
CELP code makes as to the harmonic relationship of the signal
content of human speech.

If there is a 125Hz component and it has a 250, 500, 750, 1K
set of harmonics, how does the code deal with them if it's
off 50Hz? So, it's 175, 300, 550, 800, and 1k05? That should
throw a good wrench into the works.

The whole test would go:
Shift good sample up/down by X Hz
encode/decode
Shift sample back down/up by X Hz
compare to original sample (or transcoded non-shifted sample)

Suggestions?

Cheers,
Daivd N0YMV

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: SSB offset correction

From: Rob Frohne <frohro@wwc.edu>
Date: Wed, 12 Jun 2002 17:05:31 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84612-2002.06.12-19.42.29--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi David,

I suggest you take your data and frequency shift it using MATLAB or
Octave or some similar program and then play it back. If you would like
more details on the ways of doing this see my web page at:

http://www.wwc.edu/%7Efrohro/qex/qex-art.html

Good luck,

Rob, KL7NA

On Wednesday, June 12, 2002, at 05:05 PM, David Willmore wrote:

>
> I've got a quick question. What would be the suggested method
> of shifting the pitch of a wide passband by X Hz be? Say I
> recorded a single sideband roundtable and some of the members
> were off. After the fact, what method should I use to correct
> each of the sections of the recording so that they all sound
> properly tuned?
>
> I'm actually looking for a way to *mistune* a designated good
> sample by some offset before feeding it into a voice codec--
> Speex--to see how that messes with the assumption that the

> CELP code makes as to the harmonic relationship of the signal
> content of human speech.
>
> If there is a 125Hz component and it has a 250, 500, 750, 1K
> set of harmonics, how does the code deal with them if it's
> off 50Hz? So, it's 175, 300, 550, 800, and 1k05? That should
> throw a good wrench into the works.
>
> The whole test would go:
> Shift good sample up/down by X Hz
> encode/decode
> Shift sample back down/up by X Hz
> compare to original sample (or transcoded non-shifted sample)
>
>
> Suggestions?
>
> Cheers,
> Daivd N0YMV
>
> ---
> You are currently subscribed to hfsig as: FROHRO@WWC.EDU
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
--
Rob Frohne, Ph.D., P.E.
E.F. Cross School of Engineering
Walla Walla College
http://www.wwc.edu/~frohro/

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: SSB offset correction

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Thu, 13 Jun 2002 00:08:33 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84647-2002.06.12-23.26.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I suggest you take your data and frequency shift it using MATLAB or
> Octave or some similar program and then play it back. If you would like
> more details on the ways of doing this see my web page at:
>
> http://www.wwc.edu/%7Efrohro/qex/qex-art.html

Thank you, Rob. :) Very handy and a good project as well. Thanks!
This isn't a bad site for everyone to have a quick gander at.

I'll stare at the equations a bit more, but I think I'll write my
own code in C as I'm just that way. :)

Cheers,
David N0YMV

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: SSB offset correction

From: Michael Buyanin <dsp4us@yahoo.com>
Date: Wed, 12 Jun 2002 22:42:01 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84680-2002.06.13-01.18.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

David,
 the easiest way: do FFT and IFFT right back but
replacing frequencies with some delta f. You can play
with windowing of spectrum for better result.
There are some other ways in time domain (you have to
design Hilbert transform filter and (or) low pass
filters though).

PS. Thanks for Speex... I didn't know about it.
Regards,

Michael
K6DSP

--- David Willmore <davidwillmore@iamanidiot.com>
wrote:
>
> I've got a quick question. What would be the
> suggested method
> of shifting the pitch of a wide passband by X Hz be?
> Say I
> recorded a single sideband roundtable and some of
> the members
> were off. After the fact, what method should I use
> to correct
> each of the sections of the recording so that they
> all sound
> properly tuned?
>
> I'm actually looking for a way to *mistune* a
> designated good
> sample by some offset before feeding it into a voice
> codec--
> Speex--to see how that messes with the assumption
> that the
> CELP code makes as to the harmonic relationship of
> the signal
> content of human speech.
>
> If there is a 125Hz component and it has a 250, 500,
> 750, 1K
> set of harmonics, how does the code deal with them
> if it's
> off 50Hz? So, it's 175, 300, 550, 800, and 1k05?
> That should
> throw a good wrench into the works.
>
> The whole test would go:
> Shift good sample up/down by X Hz
> encode/decode
> Shift sample back down/up by X Hz
> compare to original sample (or transcoded
> non-shifted sample)
>
>
> Suggestions?
>
> Cheers,
> Daivd N0YMV
>
> ---
> You are currently subscribed to hfsig as:
> dsp4us@yahoo.com
> To unsubscribe send a blank email to
> leave-hfsig-4070F@lists.tapr.org
>

_____
Do You Yahoo!?
Yahoo! - Official partner of 2002 FIFA World Cup
http://fifaworldcup.yahoo.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: SSB offset correction

From: Alberto di Bene <dibene@usa.net>
Date: Thu, 13 Jun 2002 11:03:51 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84706-2002.06.13-04.42.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

David Willmore wrote:

> I've got a quick question. What would be the suggested method
> of shifting the pitch of a wide passband by X Hz be? Say I
> recorded a single sideband roundtable and some of the members
> were off. After the fact, what method should I use to correct

> each of the sections of the recording so that they all sound
> properly tuned?
> [...]

If you are confident with DSP programming, you could achieve
what you want using a Pentium CPU (no actual DSP chip needed),
under Windows, using a complex mixer (implemented in software).
You digitize your input with a sound card, then split it in two channels,
one of which pass through an Hilbert transformer, to shift it by 90 degrees,
while the other is simply delayed by a time amount equal to the transit
time into the Hilbert transformer. Then you feed the two channels (I and Q)
to a couple of multipliers which are also fed with the outputs of a software
NCO, also shifted 90 degrees one with respect to the other. The outputs
of the two multipliers are the I and Q components of a signal which is
your original signal shifted in frequency by the frequency of the NCO.
Now you reconvert them to the analog domain and you are done.
You could use the Intel Signal Processing Library :
http://developer.intel.com/software/products/perflib/spl/index.htm
as a basis for the program. It is a wealth of useful routines useable from
many languages (C++, Pascal, Vb, etc.). And it is free.

73 Alberto I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: SSB offset correction

From: Tomi Manninen OH2BNS <tpm@prkele.tky.hut.fi>
Date: Thu, 13 Jun 2002 12:17:55 +0300 (EETDST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84707-2002.06.13-04.54.30--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 12 Jun 2002, Michael Buyanin wrote:

> There are some other ways in time domain (you have to
> design Hilbert transform filter and (or) low pass
> filters though).

My "enhanced" version of KC7WW's channel simulator has an option to do a
frequency shift. It uses the (simple) hilbert transform / complex mixer
trick to do it.

You can find the source code at

 http://www.peak.org/~forrerj/SIMULR/chansim-0.56-bns-tar.gz

--
Tomi Manninen   Internet: oh2bns@sral.fi
OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: SSB offset correction

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Thu, 13 Jun 2002 13:34:46 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84782-2002.06.13-12.52.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> the easiest way: do FFT and IFFT right back but
> replacing frequencies with some delta f. You can play
> with windowing of spectrum for better result.
> There are some other ways in time domain (you have to
> design Hilbert transform filter and (or) low pass
> filters though).

I thought of that, but my understanding breaks down
when it's not a truely time repetetive signal and
windowing becomes necessary. I just don't know
enough about those details to try to mess with it.

Big-nasty integrals, I get. :)

> PS. Thanks for Speex... I didn't know about it.

It's quickly developing. They have three main modes:
wide (16K sampling rate, <32K bit rate)
narrow (8K sampling rate, <16K bit rate)
the new
low bit rate narrow (8K sampling rate, <8K bit rate)

I think the low bit rate mode sounds better than normal
SSB--then again, I'm not in the 3.5+KHz passband 1k5W
QRO crowd from 80m.

Still takes a little too much CPU for general ham acceptance--
not to mention that the current code if floating point,
single precision, but still...

The author is very cool and responsive, too. That never
hurts.

Cheers,
David

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: SSB offset correction

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Thu, 13 Jun 2002 13:40:17 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84784-2002.06.13-12.58.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> If you are confident with DSP programming, you could achieve
> what you want using a Pentium CPU (no actual DSP chip needed),
> under Windows, using a complex mixer (implemented in software).
> You digitize your input with a sound card, then split it in two channels,
> one of which pass through an Hilbert transformer, to shift it by 90 degrees,
> while the other is simply delayed by a time amount equal to the transit
> time into the Hilbert transformer. Then you feed the two channels (I and Q)
> to a couple of multipliers which are also fed with the outputs of a software
> NCO, also shifted 90 degrees one with respect to the other. The outputs
> of the two multipliers are the I and Q components of a signal which is
> your original signal shifted in frequency by the frequency of the NCO.
> Now you reconvert them to the analog domain and you are done.
> You could use the Intel Signal Processing Library :
> http://developer.intel.com/software/products/perflib/spl/index.htm
> as a basis for the program. It is a wealth of useful routines useable from
> many languages (C++, Pascal, Vb, etc.). And it is free.
>
> 73 Alberto I2PHD

Thanks, Alberto, this is what I had intended to do before I though to
ask the group. Well, I had intended to 'upconvert' the signal and
then 'downconvert' it--but at an offset. My concern was that I was
concerned with intermod from the multiplication. But, I can now see
why I was wrong in thinking that. I must always remember:

"Multiplication in the (time/frequency) domain is convolution in the other."

I'll also go check out that code at intel. I've been meaning to
for the work I'm doing on WOLF, but hadn't gotten around to it.
I was thinking of using FFTW instead as I wanted to keep the whole
project open source and cross platformable. Never know when someone
will want to put it on a little DSP board.

Oh, and the target application is a general purpose CPU, not an
embedded DSP--they're too hard to develop with and not as cost
effective as they used to be.

Cheers,
David N0YMV

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: SSB offset correction

From: Michael Buyanin <dsp4us@yahoo.com>
Date: Thu, 13 Jun 2002 11:44:58 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84793-2002.06.13-14.21.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hope that will help:
http://www.dspdimension.com/html/pscalestft.html
and more general:
http://www.fftw.org/links.html

Short note:
I do not really understand what you are going to get
from you experiments. LPC and vocoder in general are
lossy processes. You wont get any linear (meaningful)
dependencies frequency shift<->speech quality

Michael
K6DSP

--- David Willmore <davidwillmore@iamanidiot.com>
wrote:
> > the easiest way: do FFT and IFFT right back but
> > replacing frequencies with some delta f. You can
> play
> > with windowing of spectrum for better result.
> > There are some other ways in time domain (you have
> to
> > design Hilbert transform filter and (or) low pass
> > filters though).
>
> I thought of that, but my understanding breaks down
> when it's not a truely time repetetive signal and
> windowing becomes necessary. I just don't know
> enough about those details to try to mess with it.
> Big-nasty integrals, I get. :)
>
> > PS. Thanks for Speex... I didn't know about it.
>
> It's quickly developing. They have three main
> modes:
> wide (16K sampling rate, <32K bit rate)
> narrow (8K sampling rate, <16K bit rate)
> the new
> low bit rate narrow (8K sampling rate, <8K bit rate)
>
> I think the low bit rate mode sounds better than
> normal
> SSB--then again, I'm not in the 3.5+KHz passband
> 1k5W
> QRO crowd from 80m.
>
> Still takes a little too much CPU for general ham
> acceptance--
> not to mention that the current code if floating
> point,
> single precision, but still...
>
> The author is very cool and responsive, too. That
> never
> hurts.
>
> Cheers,
> David
>
> ---
> You are currently subscribed to hfsig as:
> dsp4us@yahoo.com
> To unsubscribe send a blank email to
> leave-hfsig-4070F@lists.tapr.org
>

_____
Do You Yahoo!?
Yahoo! - Official partner of 2002 FIFA World Cup
http://fifaworldcup.yahoo.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: SSB offset correction

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Thu, 13 Jun 2002 16:39:41 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84798-2002.06.13-15.57.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Hope that will help:
> http://www.dspdimension.com/html/pscalestft.html
> and more general:
> http://www.fftw.org/links.html
>
> Short note:
> I do not really understand what you are going to get
> from you experiments. LPC and vocoder in general are
> lossy processes. You wont get any linear (meaningful)
> dependencies frequency shift<->speech quality

I just wanted to check the sensitivity of the vocoder to
frequency offset. If it takes advantage of the harmonic
structure of the sounds made by the human vocal system,
but the pitches are offset (destroying the harmonic
relationship) shouldn't things get worse?

Cheers,
David N0YMV

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Wide Band HF Channel Simulator

From: Zhang Yubing <yubingz@21cn.com>
Date: Fri, 14 Jun 2002 9:52:33 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84844-2002.06.13-21.24.10--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,
    As we know the bandwidth of HF channel in CCIR 520-1 is 12kHz, but why the channel simulators I know
 all works on 3 or 4kHz? Is there any wideband (12kHz or more) HF channel simulator I can use?
    Thanks!
Yubing Zhang

12. [hfsig] Re: SSB offset correction

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 14 Jun 2002 12:58:48 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-84915-2002.06.14-07.49.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Short note:
> I do not really understand what you are going to get
> from you experiments. LPC and vocoder in general are
> lossy processes. You wont get any linear (meaningful)
> dependencies frequency shift<->speech quality

I think it's a valid and useful experiment. I'd be
interested in the results.

It has implications for the cascading of analogue and
digital links, and use of compression for traffic logs.

There is at least one HF reciver on the 'net that you
can pick the frequency and listen to compresed audio.
IFAIR they were using the GSM codec.

As the frequency offset gets worse I'd expect the
LPC pitch-tracker to fail. The model of the vocal
tract that they depend on also fails - ie. that of
a filter excited by pulses.

The requirements for an LPC or CELP or MELP -type
coder don't actually define algorithms for encoding-

so you may find that one author's coder uses a
different pitch-tracker to another. Extraction of
LPC coefficients won't vary much, whether they use
Levinson-Durbin or Schur the result is mathematically
the same. All CELP coders will not be alike.
Furthermore, if you find that a given coder performs
badly with say 10Hz offset, it doesn't necessarily
follow that CELP coding itself is at fault. Only a
theoretical analysis can prove that. The result of
such an analysis may be simply that coders should
not encode offsets so that the original speaker is
properly coded!

Note that frequency offsets are also possible on the
telephone network (old FDM systems) - I'd expect
coders intended for cascading with POTS to have a
reasonable tolerance (eg GSM coder, AMBE used by
INMARSAT, etc) 1ppm (30Hz) is not unexpected from
a portable HF, But I'm sure POTS is better than that.

I'm sure it's possible to add algorithms to an
LPC coder that would enable it to identify frequency
offset and correct it! LPC is used to correct many
other vocal errors for singers on-stage and in
the studio. When it's not quantised, LPC can sound
very good!

The biggest problem coding off-air HF signals may
not be the frequency offset, but the background noise.
Too much QRN and it won't extract voiced speech at all.
QRM, whistles and CW, will confuse it, and make it
do silly things in the gaps between words. Loss of
frequencies below 300Hz is also very serious for the
coder. Although there's little speech energy in this
band, it's often where the pitch fundamental is
located.

You might like to try the GSM codec. Source is here
http://kbs.cs.tu-berlin.de/~jutta/toast.html

... or use the Microsoft codec. (Load file into "Sound
Recorder" and change the format!). On this NT4 PC I
note Lenout & Hauspie 4.8k CELP, Microsoft G.723.1,
and GSM6.10 codecs are installed. And it hasn't even
got any audio i/o devices!

(Anyone know how to create such codecs?)

ETSI are offering free downloads at the moment and
you can use it to get the source for the half-rate
GSM coder here
http://pda.etsi.org/pda/queryform.asp

ETS 300 581-2 (GSM 06.20) is the mathematical description
ETS 300 581-7 (GSM 06.06) is the sourcecode.
ETS 300 581-8 (GSM 06.07) contains the test patterns.
(where there is a PDF and a ZIP file, *save both*)

The rest of 300 328-1 to -8 contain other relevant bits & bobs.

GSM coders have patents but nobody's objecting to distribution
of sourcecode at the moment. Experimenting is OK, commercial
use would not be.

M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] A question

From: Zhang Yubing <yubingz@21cn.com>
Date: Sun, 16 Jun 2002 18:14:42 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85238-2002.06.16-05.46.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I don't understand how to test a 12kHz bandwidth HF modem with 70Mhz carrier. If I can use a narrow baseband simulator such as the code from http://www.peak.org/~forrerj/SIMULR/chansim-0.56-bns-tar.gz ?
If I can't how should I do?
Thanks a lot!
Yubing Zhang

14. [hfsig] A thesis

From: Zhang Yubing <yubingz@21cn.com>
Date: Mon, 17 Jun 2002 10:45:19 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85337-2002.06.16-22.17.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Who can tell me where can I find the PhD thesis "Spread-Spectrum Communications in the Interference-Limited HF Band"?
Thanks!

15. [hfsig] Re: SIG question

From: Hank Greeb <hgreeb@one.net>
Date: Mon, 17 Jun 2002 01:25:07 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85372-2002.06.17-01.09.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In the recent daily digest, there were two MIME messages, which came in as ASCII streams, no legible text.

Is it possible to read the SIG on TAPR's web site?

Hank, N8XX

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] A thesis

From: Zhang Yubing <yubingz@21cn.com>
Date: Mon, 17 Jun 2002 17:32:18 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85377-2002.06.17-05.04.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Who can tell me where can I find the PhD thesis "Spread-Spectrum Communications in the Interference-Limited HF Band"?
Thanks!
□□□□y□□□□+.n□+□□□□□_□(□r□+□□□"□□Z□□□□{.n□+□□zwZnV□□□□□[h□□{□_□(□□N□□b□□□k□□□

17. [hfsig] A question

From: Zhang Yubing <yubingz@21cn.com>
Date: Mon, 17 Jun 2002 17:33:13 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85379-2002.06.17-05.05.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I don't understand how to test a 12kHz bandwidth HF modem with 70Mhz carrier. If I can use a narrow baseband simulator such as the code from http://www.peak.org/~forrerj/SIMULR/chansim-0.56-bns-tar.gz ?
If I can't how should I do?
Thanks a lot!
Yubing Zhang
□□□□y□□□□+.n□+□□□□□_□(□r□+□□□"□□Z□□□□{.n□+□□zwZnV□□□□□[h□□{□_□(□□N□□b□□□k□□□

18. [hfsig] A question

From: Zhang Yubing <yubingz@21cn.com>
Date: Mon, 17 Jun 2002 18:5:7 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85382-2002.06.17-05.36.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I don't understand how to test a 12kHz bandwidth HF modem with 70Mhz carrier. If I can use a narrow baseband simulator such as the code from http://www.peak.org/~forrerj/SIMULR/chansim-0.56-bns-tar.gz ?
If I can't how should I do?
Thanks a lot!
Yubing Zhang
ÿÿØ¢æ«yË«-éí□+.nÇ+□·□¶□_²(³ùr®+ÿ_
û"□ûZ¦¿è®è°{.nÇ+□·¬zwZnV§□é□□[h□æ¯{ø_²(ÿãNôùb²Ûÿµªkþ□à

19. [hfsig] Re: SIG question

From: John Ackermann N8UR <jra@febo.com>
Date: Mon, 17 Jun 2002 08:28:20 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85394-2002.06.17-08.05.28--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Non-text messages on mailing lists are bad, very bad...

Hank, there is an archive of the TAPR mailing lists available via the web site -- at the lower left corner of the home page, there's a "Mailing List Archive" icon. Hit that, pick a list, and you can either browse or do a full-text search. The archive is only updated once per day, so it will be a little out of date.

73,
John

--On Monday, June 17, 2002 1:25 AM -0400 Hank Greeb <hgreeb@one.net> wrote:

> In the recent daily digest, there were two MIME messages, which came in
> as ASCII streams, no legible text.
>
> Is it possible to read the SIG on TAPR's web site?
>
> Hank, N8XX
>
>
> ---
> You are currently subscribed to hfsig as: jra@febo.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
>

John Ackermann N8UR jra@febo.com http://www.febo.com
President, TAPR n8ur@tapr.org http://www.tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

20. [hfsig] Re: A [channel simulator] question

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 17 Jun 2002 16:14:14 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85407-2002.06.17-11.24.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Channel simulators for HF aren't usually available for
RF or IF frequencies. You'll have to downconvert, either
with receiver & transmitter drives, or lots of test equipment,
or with lash-up jigs. A couple of mixers, some filters perhaps
and a sig gen should do it.

As you've noticed, most channel simulators sample at 8kHz
for a usable BW something like 3.5kHz. Some will enforce
typical HF transceiver channel filtering, in order to properly
measure in-band signal power and represent the complete
channel, rather than just the ionosphere.

With modems being integrated into digital transceivers,
there's no baseband. Channel sim hardware will just have
to get more complex, I suppose.

If you have the sourcecode to the channel sim, I suggest
you just jack up the audio device sample rate and force
it to run faster. Make sure your CPU is fast enough, and
scale the input fade rates accordingly. A 0.1Hz fade rate
at 8kHz sample rate would become 0.6Hz at 48kHz rate.
Noise bandwidths will also scale. If it was set for 10dB
SNR in 3kHz before, at 48kHz rate that would be 10dB
in 18kHz noise BW.

If the simulator won't run fast enough real-time, sample
the signal to a file and put the file through the simulator.
You may be able to avoid modifying the simulator code
this way - you might have to re-label the sample rates
on the audio files to fool the simulator.

I assume your 70MHz is an IF frequency. Ionospheric
propagation must be very rare indeed in the 4m band...

Ant, M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

21. [hfsig] Re: SIG question

From: Zhang Yubing <yubingz@21cn.com>
Date: Mon, 17 Jun 2002 14:9:1 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85459-2002.06.17-19.06.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Could you read this mail?

In the recent daily digest, there were two MIME messages, which came in as ASCII
streams, no legible text.

Is it possible to read the SIG on TAPR's web site?

Hank, N8XX

You are currently subscribed to hfsig as: yubingz@21cn.com
To unsubscribe send a blank email to leave-hfsig-29417Q@lists.tapr.org

22. [hfsig] Re: wideband HF channel simulator

From: "Thomas C. McDermott" <TCMcDermott@compuserve.com>
Date: Mon, 17 Jun 2002 20:36:49 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85470-2002.06.17-20.14.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Re: wideband HF channel simulator

Probably the more important issue is that the well-known HF channel
simulation models are not valid for bandwidths over about 6-8 khz.
This is an important exclusion mentioned by Watterson in his
work for the NBS (now NIST) on HF propagation modeling. The CCITT/CCIR
model was derived from Watterson's work. Most (all?) of the HF simulators
available to radio amateurs are similarly derived, and suffer this
limitation.

Practically, the problem is dispersion. That is - the speed of propagation
for HF signals is relatively constant only for narrowband signals. For
wider
bandwidth HF signals (>8 Khz) there is considerable dispersion: some of the
HF
frequencies appear to propagate faster than others. This is caused in part
by the penetration depth of the ionosphere being frequency-dependent;
the higher-frequency components penetrate further and thus travel a longer
physical path from source to destination.

Dispersion of a wideband signal results in non-linear distortion to the
signaling waveform which cannot easily be compensated with baseband
equalization (nor simulated easily either!). A good argument for (O)FDM
modulation methods for such problems.

This same problem afffects fiber optics transmission systems. A lot of
information on chromatic dispersion equalization is presented in the IEEE
and OSA (Optical Society of America) literature.

        -- Tom, N5EG

---------- included message

Re: [hfsig] Re: A [channel simulator] question

...snip...

As you've noticed, most channel simulators sample at 8kHz
for a usable BW something like 3.5kHz. Some will enforce
typical HF transceiver channel filtering, in order to properly
measure in-band signal power and represent the complete
channel, rather than just the ionosphere.

With modems being integrated into digital transceivers,
there's no baseband. Channel sim hardware will just have
to get more complex, I suppose.

If you have the sourcecode to the channel sim, I suggest
you just jack up the audio device sample rate and force
it to run faster. Make sure your CPU is fast enough, and
scale the input fade rates accordingly. A 0.1Hz fade rate
at 8kHz sample rate would become 0.6Hz at 48kHz rate.
Noise bandwidths will also scale. If it was set for 10dB
SNR in 3kHz before, at 48kHz rate that would be 10dB
in 18kHz noise BW.

...snip...

Ant, M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

23. [hfsig] Re: wideband HF channel simulator

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 18 Jun 2002 11:51:50 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85582-2002.06.18-06.38.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I might agree that the watterson model may not be
applicable to wide bandwidths; I don't really have
info to dispute this. But 12kHz doesn't seem sufficiently
wide to make a substantial difference in character.

What I don't follow is your arguament that baseband equalisation
can't deal with dispersion. Troposcatter channels are pure
dispersion and adaptive equalisers deal with that just fine.

> Dispersion of a wideband signal results in non-linear distortion to the
> signaling waveform which cannot easily be compensated with baseband
> equalization (nor simulated easily either!). A good argument for (O)FDM
> modulation methods for such problems.

In what way is dispersion on HF non-linear? Or different to
dispersion elsewhere?

I don't see anything fantastic about a delay variation
with frequency. We see complex delay vs. frequency
curves for bandpass filters all the time, and obviously
we don't like them if they're really crooked. None are
intractable non-linear problems.They can all be
corrected with a suitable all-pass network or a
digital equaliser with an adequate number of taps.

Simulation of dispersive channels is done with a tapped
delay line and summing the elements with coefficients
just like in the watterson simulator. The coefficients are
just different. Instead of discrete paths, a dispersive
channel has a random distribution of delay. In fact it's
like a watterson with one path. The fading model that
is applied to each path is dispersion. There are minor
issues whether the randomness is rayleigh or whatnot.

When the data rates get higher as in a wide bandwidth
signal, you must start updating the equaliser coefficients
faster to deal with dispersion. Thus some of the current
HF equaliser systems for 3kHz may not be suitable.
They may make assumptions about slowly changing
discrete paths that don't hold.

Hmm, at the moment I'm thinking that the watterson
model is still just fine over wider BW, it's just that
the output starts to look different when you see it
over wider BW, and you need to start dealing
more thouroughly with the effects of it. It's probable
that the CCITT "good" settings etc were worked
out from observation of narrow channels, so I'd
sooner dump them in the bin. Some analysis of
wider BW paths will be needed to configure the
simulator.

AFAIR other researchers have used watterson for
wider BW. To quote that rather all-encompassing
phrase: "read the literature".

M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

24. [hfsig] Re: wideband HF channel simulator

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Tue, 18 Jun 2002 13:43:11 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85588-2002.06.18-07.20.18--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony N Martin wrote:
>
> I might agree that the watterson model may not be
> applicable to wide bandwidths; I don't really have
> info to dispute this. But 12kHz doesn't seem sufficiently
> wide to make a substantial difference in character.

It does (and that is also in the Watterson paper). Basically when you
have more
bandwidth you can resolve details in time domain, that you otherwise
"can't see".

>
> What I don't follow is your arguament that baseband equalisation
> can't deal with dispersion. Troposcatter channels are pure
> dispersion and adaptive equalisers deal with that just fine.
>
> > Dispersion of a wideband signal results in non-linear distortion to the
> > signaling waveform which cannot easily be compensated with baseband
> > equalization (nor simulated easily either!). A good argument for (O)FDM
> > modulation methods for such problems.
>
> In what way is dispersion on HF non-linear? Or different to
> dispersion elsewhere?

Dispersion on HF is caused by the movement of the ionosphere, so it is
mainly Doppler.
It is a common misbelief that Doppler is linear. It is not (look at the
equations: fd = f0 cos(alpha) v/c, which is a function of the carrier
frequency f0).
Only in systems where the bandwidth is small compared to f0 you can
linearize this.

But I guess you are right in assuming that 12kHz is still "small"
compared to the carrier
frequencies on HF.

About the problem with the wide band channels: I remember a paper
about a spread spectrum system on HF (Skaug: An experient with spread
spectrum modulation on an HF channel. IEE conf. publ. 206, 1982). What

you would think at first is that the wider
the spectrum the more efficient the system. They did some tests and
found out that the modem
performed worse at 160kHz bandwidth than at smaller bandwidths. They
could not really explain why, though. They said (as Thomas already
wrote) that the "process" of reflection (it is no reflection actually,
it is more a refraction or bending of the ray) is dependend on the ion
density gradient and this "bending" in turn is dependent on the
frequency of the ray. So rays with different frequencies are "reflectec"
differently and so the "virtual" reflection point and thus the path
delay becomes a function of frequency.
I know that radar on HF probably uses a lot higher bandwidth, but then
they have to deal with the dispersion introduced by the ionosphere I
guess.

I just don't see why I can't model this dispersion with a linear
filter... Of course not so "easy" as in the Watterson model but a
frequency dependent group delay is not so uncommon actually...

>
> I don't see anything fantastic about a delay variation
> with frequency. We see complex delay vs. frequency
> curves for bandpass filters all the time, and obviously
> we don't like them if they're really crooked. None are
> intractable non-linear problems.They can all be
> corrected with a suitable all-pass network or a
> digital equaliser with an adequate number of taps.

But this all assumes that you can model the channel as a time-variant
FIR filter - which you only can if the effects are linear.

> When the data rates get higher as in a wide bandwidth
> signal, you must start updating the equaliser coefficients
> faster to deal with dispersion. Thus some of the current
> HF equaliser systems for 3kHz may not be suitable.
> They may make assumptions about slowly changing
> discrete paths that don't hold.

In fact most specifications do not change the delay at all (of course
they change the coefficients!). The channel model for DRM (ITU short
wave
broadcasting standard) specifies the "usual" Watterson model parameters.
And DRM uses channels as wide as 20kHz...

>
> Hmm, at the moment I'm thinking that the watterson
> model is still just fine over wider BW, it's just that
> the output starts to look different when you see it
> over wider BW, and you need to start dealing
> more thouroughly with the effects of it. It's probable
> that the CCITT "good" settings etc were worked
> out from observation of narrow channels, so I'd
> sooner dump them in the bin. Some analysis of
> wider BW paths will be needed to configure the
> simulator.

Yes, that is probably a "wise" answer...

73' Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

25. [hfsig] Re: wideband HF channel simulator

From: Zhang Yubing <yubingz@21cn.com>
Date: Tue, 18 Jun 2002 22:55:49 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85606-2002.06.18-10.27.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Who can sent me a copy of Watterson's original paper?
Thanks!

□□□□y□□□□+.n□+□□□□□_□(□r□+□□□"□□Z□□□□{.n□+□□zwZnV□□□□□□[h□□{□_□(□□N□□b□□□k□□□

26. [hfsig] Re: wideband HF channel simulator

From: Zhang Yubing <yubingz@21cn.com>
Date: Tue, 18 Jun 2002 23:11:23 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85611-2002.06.18-10.43.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Who can sent me a copy of Watterson's original paper?
Thanks!

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

27. [hfsig] Re: SSB offset correction

From: Michael Buyanin <dsp4us@yahoo.com>
Date: Tue, 18 Jun 2002 11:12:54 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85625-2002.06.18-13.50.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > Short note:
> > I do not really understand what you are going to
> get
> > from you experiments. LPC and vocoder in general
> are
> > lossy processes. You wont get any linear
> (meaningful)
> > dependencies frequency shift<->speech quality
>
> I think it's a valid and useful experiment. I'd be
> interested in the results.
>

OK. I will try to explain my points:
1. Pitch detection/tracking algorithms used in modern low rate vocoders (at least those I aware of) are based on various speech models, assuming certain range for speech fundamental frequency. Therefore this □frequency offset experiment□ will just fool those functions as soon as fundamental frequency of voice signal will be shifted out of that range. Results of this can be predicted:
- for some small offsets there wont be any quality degradation. (Otherwise there will be differences in handling of female, male, child voices in that vocoder). I do not believe that 10 Hz frequency shift can make vocoder to fail.
- For larger offsets when pitch detection start to fail, on certain phrases there will be blips in the audio caused by screwing up in voiced/unvoiced interval detection and pitch tracking. But if person will start speaking with different pitch (let say more emotional) those artifacts can disappear, or different speaker can pronounce same phrase without problem for vocoder.

2. Second point □ what is a practical reason for evaluation how vocoder handles frequency shifted voice? (Shifted on 100 Hz and more). If we are talking about sending compressed live radio through internet □ there are many audio codecs (not voice!) that not use pitch detection at all. They more suitable for this kind of job. CW, QRM, QRN are other reasons not to use vocoders for that as well.

Speaking about cascading PSTN and digital link for voice transmission, I would be more interested in finding out what is a requirement for flatness of channel frequency characteristics. Or in amateur radio case □ how good should be microphone to be used in digital radio with vocoders and whether can be used

equalizers and speech processors.

Once working on replacing IMBE vocoder on AMBE (two
years ago) we have found that if phone is connected to
digital link via PSTN (4-wire) for some speakers AMBE
failed in a strange way. The speech became look like
animated cartoon talk. More than that: if hybrids in
PSTN are not balanced correctly and there is an echo
in the link, that echo always sounds as Mickey Mouse.
The reason of that is obvious □ frequencies below 300
Hz had been attenuated severely and second resonance
frequency had been mistakenly detected as fundamental
frequency.

Related question: is there anybody how considers
experimenting with HVXC vocoder?

Michael
K6DSP

_____
Do You Yahoo!?
Yahoo! - Official partner of 2002 FIFA World Cup
http://fifaworldcup.yahoo.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

28. [hfsig] Re: Re: wideband HF channel simulator

From: "Jack Taylor" <n7oo@theriver.com>
Date: Tue, 18 Jun 2002 14:41:44 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85633-2002.06.18-17.19.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Zhang Yubing,
Every time you post on this reflector I get a pop-up box asking if I want to
download a huge file for the Chinese character set. I don't know if
everyone else on the reflector gets the same query, but since I don't read
Chinese, could you please remove whatever it is in your emailer that sends
Chinese characters?

Jack

<@> Who can sent me a copy of Watterson's original paper?
> Thanks!
> b□□□□\□□&v□~□j□□z□z□□:□□□m□□□□□zf□□y□□□□□□□j□

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

29. [hfsig] Re: SSB offset correction

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 18 Jun 2002 22:30:47 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85634-2002.06.18-17.23.48--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

See here for demo of automatic HF-radio speech frequency
offset correction:
http://www.rcsavt.bee.qut.edu.au/pages/demonstrations.html

They also have a demo of an "HTD coder" on the page. I'm
impressed by the audio quality at 600 b/s. I don't know what's
in this coder, what "Heirarchical Temporal Decomposition" is.

I found some demo audio of HVXC here. There may be better
sites, I wasn't searching long:
http://daniels.techfak.uni-kiel.de/staff/ll/pages/mpeg4_main.html
Also, TI has a DSP codec for it:
http://www-d.connect.ti.com/dsp/tpcat/tpcodec.nsf/SoftwareForExternal/26DE8D843B0E2DCD86256B56005FB31F
They claim 2000bps HVXC is better than 4800bpsCELP.
DOS & Windows codecs are for sale here:
http://www.avt.net/products/speech_codec.html

The ISO standards document that describes HVXC is here:
http://libmpeg.org/mpeg4/doc/w2203par.pdf

I wasn't aware of HVXC until you mentioned it. I shall look at it
in more detail. It appears to be yet another flavour of LPC
with a more exciting acronym. In fact it reverts to CELP for
unvoiced. It uses more costly cepstral methods for pitch
analysis rather than autocorrelation.

I'f fetched the libmpeg.org mpeg4 sources to see if
they have an implementation... there's 15 Mb of it...
compressed! First I need a codec for .tar.bz2! Uh, I
forgot I had cygwin installed.

As for CW morse, all coders will happily pass morse. All
can encode silence and a single tone, with varying levels
of quantisation of frequency and amplitude. They'll make
an attempt at encoding sky noise too. If there is too much
noise behind the CW tone, coders will make a decision for
"unvoiced" which would be rather destructive. You won't
be able to read morse through a coder to the low SNR
you can normally.

Ant

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

30. [hfsig] HVXC vocoder (was: SSB offset correction)

From: Michael Buyanin <dsp4us@yahoo.com>
Date: Tue, 18 Jun 2002 16:10:48 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85640-2002.06.18-18.47.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I wasn't aware of HVXC until you mentioned it. I
> shall look at it
> in more detail. It appears to be yet another flavour
> of LPC
> with a more exciting acronym. In fact it reverts to
> CELP for
> unvoiced. It uses more costly cepstral methods for
> pitch
> analysis rather than autocorrelation.
>

Thanks, I was familiar with those resources and think
that HVXC will take over the market for vocoders in
the HF radios eventually (considering it is supported
by DRM and ISO, not proprietary solution as for AMBE,
CYBIT's vocoders (http://www.cybit.com/Tech_lrc.htm)
and etc.) ones manufacturers will offer $5-$10 MPEG4
audio codecs.
I am working on implementation of HVXC (DRM version)
right now for my personal amusement, and in course
with TAPR efforts in digital radio.

I still think that using vocoders for logging and
correct frequency offsets not really practical.

Another concern about low rate vocoders: how well they
are suited for compressing non-roman languages? It
seems that speech models they based on primarily
consider only European languages, but what about
Japanese, Chinese, Urdu, Hindi?

Michael
K6DSP

_____
Do You Yahoo!?
Yahoo! - Official partner of 2002 FIFA World Cup
http://fifaworldcup.yahoo.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

31. [hfsig] Re: wideband HF channel simulator

From: Zhang Yubing <yubingz@21cn.com>
Date: Wed, 19 Jun 2002 10:40:13 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85676-2002.06.18-22.12.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is it OK?
I'm a freshman here. Sorry!
>Zhang Yubing,
>Every time you post on this reflector I get a pop-up box asking if I want to
>download a huge file for the Chinese character set. I don't know if
>everyone else on the reflector gets the same query, but since I don't read
>Chinese, could you please remove whatever it is in your emailer that sends
>Chinese characters?
>
>Jack
>
><@> Who can sent me a copy of Watterson's original paper?
>> Thanks!
>> b□□□□□□\□□□&v□~□j□□□z□z□□:□□□□m□□□□□zf□□y□□□□□□□□□j□
>
>
>---
>You are currently subscribed to hfsig as: yubingz@21cn.com
>To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

32. [hfsig] Re: wideband HF channel simulator

From: "Jack Taylor" <n7oo@theriver.com>
Date: Tue, 18 Jun 2002 19:56:51 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85679-2002.06.18-22.34.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thank you Zhang, that works fine now.

Jack

----- Original Message -----
From: Zhang Yubing <yubingz@21cn.com>
To: TAPR HF Special Interest Group <hfsig@lists.tapr.org>
Sent: Tuesday, June 18, 2002 7:40 PM
Subject: [hfsig] Re: wideband HF channel simulator

> Is it OK?
> I'm a freshman here. Sorry!
> >Zhang Yubing,
> >Every time you post on this reflector I get a pop-up box asking if I want
to
> >download a huge file for the Chinese character set. I don't know if
> >everyone else on the reflector gets the same query, but since I don't
read
> >Chinese, could you please remove whatever it is in your emailer that
sends
> >Chinese characters?
> >
> >Jack
> >
> ><@> Who can sent me a copy of Watterson's original paper?
> >> Thanks!
> >> b<-ç®·¶\¹»®&vÚ~ÈjÉ¢ > >
> >
> >---
> >You are currently subscribed to hfsig as: yubingz@21cn.com
> >To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
>

> ---
> You are currently subscribed to hfsig as: n7oo@theriver.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

33. [hfsig] Re: wideband HF channel simulator <LYR28784-85676-2002.06.18-22.12.00--thasson#comcast.net@lists.tapr.org>

From: Tim Hasson <thasson@marinecomputer.com>
Date: Tue, 18 Jun 2002 22:58:03 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85680-2002.06.18-22.36.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for fixing that, Zhang. Helps us all focus on your question, not the
annoying pop-up!

-Tim

> -----Original Message-----
> From: bounce-hfsig-28784@lists.tapr.org
> [mailto:bounce-hfsig-28784@lists.tapr.org]On Behalf Of Zhang Yubing
> Sent: Tuesday, June 18, 2002 10:40 PM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Re: wideband HF channel simulator
>
>
> Is it OK?
> I'm a freshman here. Sorry!
> >Zhang Yubing,
> >Every time you post on this reflector I get a pop-up box asking
> if I want to
> >download a huge file for the Chinese character set. I don't know if
> >everyone else on the reflector gets the same query, but since I
> don't read
> >Chinese, could you please remove whatever it is in your emailer
> that sends
> >Chinese characters?
> >
> >Jack
> >
> ><@> Who can sent me a copy of Watterson's original paper?
> >> Thanks!
> >> b□-ç®·¶\¹»®&vÚ~ÈjÉ¢□z¸z·□:□Ë±Êmë□Ö□©zf□Úy«
û□½Ð□²Ûj□
> >
> >
> >---
> >You are currently subscribed to hfsig as: yubingz@21cn.com
> >To unsubscribe send a blank email to leave-hfsig-28784L@lists.tapr.org
>
>
>
> ---
> You are currently subscribed to hfsig as: thasson@comcast.net
> To unsubscribe send a blank email to leave-hfsig-28784L@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

34. [hfsig] Wide bandwidth HF simulation

From: Roald Otnes <roaldo@unik.no>
Date: Wed, 19 Jun 2002 07:37:17 +0200 (CEST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85706-2002.06.19-01.16.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >
> > I might agree that the watterson model may not be
> > applicable to wide bandwidths; I don't really have
> > info to dispute this. But 12kHz doesn't seem sufficiently
> > wide to make a substantial difference in character.
>
>
> It does (and that is also in the Watterson paper). Basically when you
> have more
> bandwidth you can resolve details in time domain, that you otherwise
> "can't see".

Hi all,

(I have only looked quickly through the discussion, so please excuse me
if I repeat what someone else have already said)

the guys saying that things get nonlinear when the bandwidth is wide are
probably right. Another point, however, which I think will be noticed at
smaller bandwidths than that, is that one basic assumption of the
Watterson model fails. The Watterson model is an example of a so-called WSSUS
channel (wide sense stationary, uncorrelated scattering), which makes the
two assumptions of WSS and US. (now we're deep into theory again :-)

US (uncorrelated scattering) roughly speaking means that the fading of the
channel at different _observable_ delays are independent. Therefore, the channel
can be modelled as a tapped delay line with independent fading taps. As
you say, when the channel bandwidth increases more details can be resolved
in the delay domain, and the impulse response becomes almost a continous
function rather than just having a few taps. Thus, we model the channel as
a tapped delay line with many closely spaced taps, as one of you
mentioned.

Question: Are the tap gains at different delays independent now?
Answer: No, and we can therefore not use the US assumption.
Question: How do we then model the correlation between different taps?
Answer: That's the problem.

One simple approximation is to have "groups" of taps at closely spaced
delays fading together, i.e. just passing the tap in the Watterson model through
a filter broadening it in the delay domain.
But now, we have already made extensions to the Watterson model.
Hence, we are in a bandwidth regime where the Watterson model is
not valid.

BTW: Here is approximately what is said in ITU-R F.1487 "Testing of HF
modems with bandwidths of up to about 12 kHz using ionospheric channel
simulators":
"... accomodate channel bandwidths in excess of 12 kHz using logical
extensions of the present Gaussian model." (e.g. as I described in the
previous section). "... For very wide bandwidth simulations this extended
approach may not be tenable because the channel conditions may vary
within the transmission bandwidth". I.e. the effects you have been
discussing about nonlinear dispersion and stuff like the don't kick in at
12 kHz, but at "very wide bandwidths".

73 de LA5NJA / Roald Otnes

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

35. [hfsig] RE: HVXC vocoder (was: SSB offset correction)

From: "Sverre Holm - LA3ZA" <la3za@qsl.net>
Date: Wed, 19 Jun 2002 08:31:46 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85711-2002.06.19-02.06.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> -----Original Message-----
> Another concern about low rate vocoders: how well they
> are suited for compressing non-roman languages? It
> seems that speech models they based on primarily
> consider only European languages, but what about
> Japanese, Chinese, Urdu, Hindi?
>

I wouldn't be too concerned about the Indo-European languages Urdu and
Hindi, and I am sure that vocoder designers are concerned about tonal
languages like Chinese. There are some languages that use clicks, I
think it is some sort of bushman's language in the Kalahari in the south
of Africa - there's perhaps a challenge?

73 Sverre

Sverre Holm, LA3ZA
Asker, Norway (59.8N, 10.4E)
---
www.qsl.net/la3za

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

36. [hfsig] Re: Wide bandwidth HF simulation

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Wed, 19 Jun 2002 10:18:29 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85726-2002.06.19-05.28.23--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> US (uncorrelated scattering) roughly speaking means that the fading of
the
> channel at different _observable_ delays are independent. Therefore, the
channel
> can be modelled as a tapped delay line with independent fading taps. As
> you say, when the channel bandwidth increases more details can be
resolved
> in the delay domain, and the impulse response becomes almost a continous
> function rather than just having a few taps. Thus, we model the channel
as
> a tapped delay line with many closely spaced taps, as one of you
> mentioned.

I think the implication is that reflections from
the different layers of the ionosphere will vary
independently. And be independent of the ground
wave. If there is truth in this, it remains true
whatever the observation bandwidth.

In truth we know they are correlated in the
long term (hours, days) as they are all
influenced by solar radiation but this is
easily observed with narrow bandwidths!
It seems most unlikely they become correlated
in the very short term (0.1ms) as the layers
are considerable distances apart.

If we analyse the path with wider BW, then
we can resolve smaller delays and scattering
(dispersion) on each reflected ray may become
noticable.

Perhaps we are saying there is a dispersion
model in addition to the fading model and
doppler for each reflected path.

I still doubt you can see dispersion unless
the BW is very much wider than 12kHz.

For troposcatter paths, you don't worry
about dispersion below 1Mb/s... above that
adaptive equalisers are required.

I don't remember dispersion being a concern
for OTHR either, and they operate with much
wider BW than 12kHz.

M1FDE

Sorry if I don't attribute quotes in my
replies, Lotus Notes doesn't do automatic
quoting so any quotes I've done manually

and it's a pain.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

37. [hfsig] RE: HVXC vocoder

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Wed, 19 Jun 2002 11:18:17 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85727-2002.06.19-06.13.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The MPEG-4 reference implementation of the HVXC codec
should be here but the FTP server is "unavailable":
ftp://ftp.tnt.uni-hannover.de/pub/MPEG/audio/mpeg4/software/w2205/Audio/Natural/refsoft980508.tgz

Has anyone got it? Or have any more success getting it
than I?

Failing this, a request on comp.speech.research tonight
might elicit a result.

It requires the AFsp libraries, AFsp-V3R2.tar.Z. This enables
it to support many different audio file formats.

The suggestion that HVXC may become a world standard
for HF digital voice is interesting. Note that MPEG4 includes
a companion coder, HILN, for music, and includes features
for automatic determination of the nature of the traffic and
selection of the codec. This can occur on-the-fly during
coding, if necessary. There does not appear to be any
declared patent interest in HVXC that might prevent
widespread free use.

Does Microsoft media-player have an MPEG4-audio
codec already? Windows has an MPEG4 video codec.
Microsoft have gone to the trouble of implementing the
MELPe coder (AKA the SC1200), but as yet I don't know
why. I haven't seen it shipped in any of their products.

At the moment the military world still seem set on MELPe,
at 1200bps FEC coded to 2400. I'd like to do a comparison
of audio quality on the same source files between MELPe
and HVXC. (when I get a HVXC coder!)

Ant

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

38. [hfsig] Re: Wide bandwidth HF simulation

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Wed, 19 Jun 2002 13:10:40 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85730-2002.06.19-06.47.54--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony N Martin wrote:
>
> > US (uncorrelated scattering) roughly speaking means that the fading of
> the
> > channel at different _observable_ delays are independent. Therefore, the
> channel
> > can be modelled as a tapped delay line with independent fading taps. As
> > you say, when the channel bandwidth increases more details can be
> resolved
> > in the delay domain, and the impulse response becomes almost a continous
> > function rather than just having a few taps. Thus, we model the channel
> as
> > a tapped delay line with many closely spaced taps, as one of you
> > mentioned.
>
> I think the implication is that reflections from

> the different layers of the ionosphere will vary
> independently. And be independent of the ground
> wave. If there is truth in this, it remains true
> whatever the observation bandwidth.

The problem is that you have different delays at different frequencies
involved.
These different delays (which you would have to model with different
taps on
your delay line) are *not* uncorrelated and that is the problem.

> If we analyse the path with wider BW, then
> we can resolve smaller delays and scattering
> (dispersion) on each reflected ray may become
> noticable.

Yes, and then you may get "paths" (=taps on your delay line) which are
correlated - that is the whole problem.

But I guess you are right: 12kHz is not really wide enough to cause
significant problems.

Another thing we came across recently.... WSS means wide sense
stationary.
If we assume (as we almost always do) that the fading is coloured
gaussian noise
then it is not only wide sense stationary, it *is* stationary.
(Sometimes you
even read GWSS = gaussian wide sense stationary which does not make
sense at all).

73' Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

39. [hfsig] RE: HVXC vocoder

From: Alberto di Bene <dibene@usa.net>
Date: Wed, 19 Jun 2002 13:16:55 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85732-2002.06.19-06.56.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/html

Anthony N Martin wrote:

The MPEG-4 reference implementation
of the HVXC codec

should be here but the FTP server is "unavailable":

ftp://ftp.tnt.uni-hannover.de/pub/MPEG/audio/mpeg4/software/w2205/Audio/Natural/refsoft980508.tgz
<ftp://ftp.tnt.uni-hannover.de/pub/MPEG/audio/mpeg4/software/w2205/Audio/Natural/refsoft980508.tgz>

I have just downloaded it without problems....

If you or others are unable to get it, let me know, and
I will put it on

my qsl.net page.

73 Alberto I2PHD

------------------- This is the README from
that package ------------

****

***
***

***
MPEG-4 Audio Reference Software
***

***
***

****

Content of README_refsoft

==========================

1 About MPEG-4 Audio Reference Software

2 Further Information

3 ISO Copyright Header

4 How to compile and run this software

5 Audio File I/O

1 About MPEG-4 Audio Reference Software

==

This is the MPEG-4 Reference Software for Natural Audio and Natural

Speech Coding.

This software was developed by many contributors in the course of

development of the MPEG-2 NBC/MPEG-4 Audio standard ISO/IEC 13818-7,

14496-1,2 and 3. This software is an implementation of a part of
one

or more MPEG-2 NBC/MPEG-4 Audio tools as specified by the MPEG-2

NBC/MPEG-4 Audio standard.

In the following the MPEG-4 Audio Reference Software is also refered
to

as Verification Model (VM) software.

2 Further Information

=======================

Further information about MPEG-4 Audio is available on the following

sites:

The official MPEG Home Page:

  http://www.cselt.it/mpeg <http://www.cselt.it/mpeg>

MPEG Audio Web Page:

  http://www.tnt.uni-hannover.de/project/mpeg/audio/
<http://www.tnt.uni-hannover.de/project/mpeg/audio/>

MPEG Audio ftp server:

ftp://ftp.tnt.uni-hannover.de/pub/MPEG/audio/ <ftp://ftp.tnt.uni-hannover.de/pub/MPEG/audio/>

3 ISO Copyright Header

==========

All files of the Reference Software have the following copyright

header:

This software module was originally developed by

FirstName LastName (CompanyName)

and edited by

FirstName LastName (CompanyName)

FirstName LastName (CompanyName)

in the course of development of the MPEG-2 NBC/MPEG-4 Audio standard

ISO/IEC 13818-7, 14496-1,2 and 3. This software module is an

implementation of a part of one or more MPEG-2 NBC/MPEG-4 Audio
tools

as specified by the MPEG-2 NBC/MPEG-4 Audio standard. ISO/IEC gives

users of the MPEG-2 NBC/MPEG-4 Audio standards free license to
this

software module or modifications thereof for use in hardware or

software products claiming conformance to the MPEG-2 NBC/ MPEG-4
Audio

standards. Those intending to use this software module in hardware
or

software products are advised that this use may infringe existing

patents. The original developer of this software module and his/her

company, the subsequent editors and their companies, and ISO/IEC
have

no liability for use of this software module or modifications thereof

in an implementation. Copyright is not released for non MPEG-2

NBC/MPEG-4 Audio conforming products. The original developer retains

full right to use the code for his/her own purpose, assign or donate

the code to a third party and to inhibit third party from using
the

code for non MPEG-2 NBC/MPEG-4 Audio conforming products. This

copyright notice must be included in all copies or derivative works.

Copyright (c) 1997.

4 How to compile and run this software

```
========================================

The VM software is written in ANSI C and is C++ compilable. It can
be

compiled and linked using GNU's gcc/g++ and GNU's make.


4.1   Structure of the software

------------------------------

vm/

 README_refsoft   (this file)

 makefile*   makefiles

 src_frame/*   frame work source code (decoder)

 src_frame_enc/*   frame work source code (encoder)

 src_par*/*   PARA core source code

 src_lpc*/*   CELP core source code

 src_tf*/*   T/F core source code

 include/   library include files (decoder)

  libtsp.h  afsp include file

  libtsp/AFpar.h  afsp include file

  *.h   other library include files

 include_enc/   library include files (encoder)

 tables/    runtime data tables

 sunos/    platform: SunOS

  mp4enc   encoder executable

  mp4dec   decoder executable

  obj/   object files

  lib/   libraries

   libtsp.a afsp library

   *.a  other libraries

 sgi/    platform: SGI (IRIX)
 linux/    platform: Linux

 sol/    platform: Solaris


4.2   Making the executables

----------------------------

Before making the VM executables, set the environment variable

SYSTEM_NAME according to your software platform (SunOS, IRIX, Linux,

OS2, Solaris):

  setenv SYSTEM_NAME SunOS

In the following, <platform> is to be replaced by your local
software

platform (sunos, sgi, linux, os2, sol).
```

Now make can be invoked

```
cd vm

make all
```

It is possible to disable different modules of the VM when making the

executable. The disabled modules are replaced by corresponding dummy

modules to maintain linkability. E.g. to enable the LPC core only, use

```
make TF=0 LPC=1 PAR=0
```

Instead of specifying these options on the command line, you can also

write them as

```
TF = 0

LPC = 1

PAR = 0
```

into the file

```
makefile.cfg .
```

For further available options, check the sub-makfiles

```
makefile.par

makefile.lpc

makefile.tf .
```

4.3 Running the encoder and decoder

Before running the VM, you should set the following environment variables according to your local path names, audio file formats etc.:

MP4_ORI_PATH	path for original audio files
MP4_BIT_PATH	path for bit stream files
MP4_DEC_PATH	path for decoded audio files
MP4_ORI_FORMAT	format of original audio files
MP4_DEC_FORMAT	format of decoded audio files
MP4_RAWAUDIOFILE	raw audio file format (for reading headerless files)

(sample format, num header bytes, sampling rate,

byte order, num channels, gain factor)

Example:

```
setenv MP4_ORI_PATH /data/mp4/ori/

setenv MP4_BIT_PATH /data/mp4/bit/
```

```
  setenv MP4_DEC_PATH /data/mp4/dec/

  setenv MP4_ORI_FORMAT .au

  setenv MP4_DEC_FORMAT .au

  setenv MP4_RAWAUDIOFILE "integer16, 0, 8000.0, native, 1,
1.0"

Invoke the encoder and decoder with the option -h to get a list
of the

command line options available:

  cd vm

  <platform>/mp4enc -h

  <platform>/mp4dec -h

The following example encodes the file test.au to the bit stream
file

test_hvx.mp4 and then decodes this bit stream to the file

test_hvx.aiff using the parametric HVXC mode at 2 kbit/s:

  <platform>/mp4enc -d 3 -m par -r 2000 -c "m=hvx" test
-o test_hvx

  <platform>/mp4dec -d 3 -ed .aiff test_hvx




5   Audio File I/O

==================

All audio file i/o of the VM software is handled via the audio.h

interface. The current implementation of audio.c is based on the
AFsp

package to support a wide range of audio file formats. Further
details

about the AFsp package are give below:



5.1   The AFsp Audio File I/O Package

-------------------------------------

To provide support for a variety of audio file formats, the VM

software uses the AFsp package for all audio file i/o. The AFsp

package is written by Peter Kabal <kabal@TSP.EE.McGill.CA> and
is

available via ftp:

current version: AFsp-V3R2.tar.Z

WWW site:  http://www.TSP.EE.McGill.CA/software.html <http://www.TSP.EE.McGill.CA/software.html>

ftp site:  ftp://ftp.TSP.EE.McGill.CA/pub/AFsp <ftp://ftp.TSP.EE.McGill.CA/pub/AFsp>

mirror site:  ftp://ftp.tnt.uni-hannover.de/pub/audio/AFsp
<ftp://ftp.tnt.uni-hannover.de/pub/audio/AFsp>

To make the libtsp library required by the VM software, unpack

AFsp-V3R2.tar.Z, goto AFsp-V3R2/libtsp and start make. Finally
the
```

following three files have to be copied to the vm directory tree:

vm/include/libtsp.h

vm/include/libtsp/AFpar.h

vm/<platform>/lib/libtsp.a

5.2 Excerpt from the AFsp Copying file

Copyright (C) 1997 Peter Kabal

The AFsp audio file routines are provided free of charge without
warranty of

any kind. All components are copyrighted. They may
be distributed free of

charge provided that the recipients also acquire the right to distribute
them.

In no case can this software be incorporated into a work which
is distributed

for a fee.

--

$Id: README_refsoft,v 1.2 1997/11/11 17:59:00 purnhage Exp $

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

40. [hfsig] RE: HVXC vocoder

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Wed, 19 Jun 2002 14:50:12 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85747-2002.06.19-09.49.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
ftp://ftp.tnt.uni-hannover.de/pub/MPEG/audio/mpeg4/software/w2205/Audio/Natural/refsoft980508.tgz

> I have just downloaded it without problems....
> If you or others are unable to get it, let me know, and I will put it on
> my qsl.net page.

Thanks!

I tried it last night and this morning and no-go.
I've just tried it again after lunch and success!

The site must have been down temporarily.
Or is internet propagation getting more like HF?

The libmpeg mpeg4 sources contain the same files
for the basic HVXC, but the deck has been shuffled.

Would anyone like MELP sources to play with? I could
also upload them to a website. I don't think they're
anywhere on the net at the moment.
The code is not written by me or my company.

M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

41. [hfsig] RE: HVXC vocoder

From: "Steven Bible" <n7hpr@tapr.org>
Date: Wed, 19 Jun 2002 07:43:09 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85749-2002.06.19-10.20.19--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony,

You may be suffering problems with FTPing with a browser. Try FTPing with a
FTP program and see what happens.

- Steve, N7HPR
  (n7hpr@tapr.org)

> -----Original Message-----
> From: bounce-hfsig-6874@lists.tapr.org
> [mailto:bounce-hfsig-6874@lists.tapr.org]On Behalf Of Anthony N Martin
> Sent: Wednesday, June 19, 2002 6:50 AM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] RE: HVXC vocoder
>
>
>
> >
> ftp://ftp.tnt.uni-hannover.de/pub/MPEG/audio/mpeg4/software/w2205/
> Audio/Natural/refsoft980508.tgz
>
> > I have just downloaded it without problems....
> > If you or others are unable to get it, let me know, and I will put it on
> > my qsl.net page.
>
> Thanks!
>
> I tried it last night and this morning and no-go.
> I've just tried it again after lunch and success!
>
> The site must have been down temporarily.
> Or is internet propagation getting more like HF?
>
> The libmpeg mpeg4 sources contain the same files
> for the basic HVXC, but the deck has been shuffled.
>
>
> Would anyone like MELP sources to play with? I could
> also upload them to a website. I don't think they're
> anywhere on the net at the moment.
> The code is not written by me or my company.
>
> M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

42. [hfsig] RE: HVXC vocoder

From: Michael Buyanin <dsp4us@yahoo.com>
Date: Wed, 19 Jun 2002 08:19:39 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85759-2002.06.19-10.56.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> The libmpeg mpeg4 sources contain the same files
> for the basic HVXC, but the deck has been shuffled.
>
It contains more recent ones though...

----snip from the same README_refsoft -----
****
***

```
           ***
***             MPEG-4 Audio Reference Software
           ***
***
           ***
************************************************************************



Content of README_refsoft
=========================

1   About MPEG-4 Audio Reference Software
2   Further Information
3   ISO Copyright Header
4   How to compile and run this software
5   Audio File I/O



1   About MPEG-4 Audio Reference Software
=========================================

This is the MPEG-4 Audio Version 1 Reference Software
for Natural
Audio and Speech Coding.  It was developed by many
contributors in the
course of development of the MPEG-2 AAC / MPEG-4 Audio
standard
ISO/IEC 13818-7, 14496-3.  This software is an
implementation of a
part of one or more MPEG-4 Audio tools as specified by
the standard.



2   Further Information
=======================

Further information about MPEG-4 Audio is available on
the following
sites:

The official MPEG Home Page:
  http://www.cselt.it/mpeg

MPEG Audio Web Page:
  http://www.tnt.uni-hannover.de/project/mpeg/audio/

MPEG Audio ftp server:
  ftp://ftp.tnt.uni-hannover.de/pub/MPEG/audio/



3   ISO Copyright Header
========================

All files of the Reference Software have the following
copyright
header:


This software module was originally developed by

FirstName LastName (CompanyName)

and edited by

FirstName LastName (CompanyName)
FirstName LastName (CompanyName)

in the course of development of the MPEG-2 NBC/MPEG-4
Audio standard
ISO/IEC 13818-7, 14496-1,2 and 3. This software module
is an
implementation of a part of one or more MPEG-2
NBC/MPEG-4 Audio tools
as specified by the MPEG-2 NBC/MPEG-4 Audio standard.
ISO/IEC gives
```

users of the MPEG-2 NBC/MPEG-4 Audio standards free
license to this
software module or modifications thereof for use in
hardware or
software products claiming conformance to the MPEG-2
NBC/ MPEG-4 Audio
standards. Those intending to use this software module
in hardware or
software products are advised that this use may
infringe existing
patents. The original developer of this software
module and his/her
company, the subsequent editors and their companies,
and ISO/IEC have
no liability for use of this software module or
modifications thereof
in an implementation. Copyright is not released for
non MPEG-2
NBC/MPEG-4 Audio conforming products. The original
developer retains
full right to use the code for his/her own purpose,
assign or donate
the code to a third party and to inhibit third party
from using the
code for non MPEG-2 NBC/MPEG-4 Audio conforming
products. This
copyright notice must be included in all copies or
derivative works.

Copyright (c) 1999.

4   How to compile and run this software
=======================================

----end of snip ----------------

>
> Would anyone like MELP sources to play with? I could
> also upload them to a website. I don't think they're
> anywhere on the net at the moment.
> The code is not written by me or my company.
>
> M1FDE

Please. It will be nice to have for comparison
reasons.

Michael
K6DSP

_____
Do You Yahoo!?
Yahoo! - Official partner of 2002 FIFA World Cup
http://fifaworldcup.yahoo.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

43. [hfsig] RE: HVXC vocoder <LYR27905-85747-2002.06.19-09.49.17--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Wed, 19 Jun 2002 11:27:20 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85762-2002.06.19-11.04.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Worked perfectly for me an hour ago.

Bob

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Anthony N Martin

Sent: Wednesday, June 19, 2002 9:50 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: HVXC vocoder

>
ftp://ftp.tnt.uni-hannover.de/pub/MPEG/audio/mpeg4/software/w2205/Audio/Natu
ral/refsoft980508.tgz

> I have just downloaded it without problems....
> If you or others are unable to get it, let me know, and I will put it on
> my qsl.net page.

Thanks!

I tried it last night and this morning and no-go.
I've just tried it again after lunch and success!

The site must have been down temporarily.
Or is internet propagation getting more like HF?

The libmpeg mpeg4 sources contain the same files
for the basic HVXC, but the deck has been shuffled.

Would anyone like MELP sources to play with? I could
also upload them to a website. I don't think they're
anywhere on the net at the moment.
The code is not written by me or my company.

M1FDE

You are currently subscribed to hfsig as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-hfsig-27905N@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

44. [hfsig] Re: Wide bandwidth HF simulation

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 19 Jun 2002 08:59:15 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85769-2002.06.19-11.36.27--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If one were to simulate a wider HF bandwidth as, say, a number of 3kHz
adjacent Watterson channels working together, each driven by an
independent RNG, would that help? I'm not too shure about discontinuities
at the 3kHz band edges though.

Regards,

Johan Forrer

On Wed, 19 Jun 2002, Roald Otnes wrote:

> > >
> > > I might agree that the watterson model may not be
> > > applicable to wide bandwidths; I don't really have
> > > info to dispute this. But 12kHz doesn't seem sufficiently
> > > wide to make a substantial difference in character.
> >
> >
> > It does (and that is also in the Watterson paper). Basically when you
> > have more
> > bandwidth you can resolve details in time domain, that you otherwise
> > "can't see".
>

> Hi all,
>
> (I have only looked quickly through the discussion, so please excuse me
> if I repeat what someone else have already said)
>
> the guys saying that things get nonlinear when the bandwidth is wide are
> probably right. Another point, however, which I think will be noticed at
> smaller bandwidths than that, is that one basic assumption of the
> Watterson model fails. The Watterson model is an example of a so-called WSSUS
> channel (wide sense stationary, uncorrelated scattering), which makes the
> two assumptions of WSS and US. (now we're deep into theory again :-)
>
> US (uncorrelated scattering) roughly speaking means that the fading of the
> channel at different _observable_ delays are independent. Therefore, the channel
> can be modelled as a tapped delay line with independent fading taps. As
> you say, when the channel bandwidth increases more details can be resolved
> in the delay domain, and the impulse response becomes almost a continous
> function rather than just having a few taps. Thus, we model the channel as
> a tapped delay line with many closely spaced taps, as one of you
> mentioned.
>
> Question: Are the tap gains at different delays independent now?
> Answer: No, and we can therefore not use the US assumption.
> Question: How do we then model the correlation between different taps?
> Answer: That's the problem.
>
> One simple approximation is to have "groups" of taps at closely spaced
> delays fading together, i.e. just passing the tap in the Watterson model through
> a filter broadening it in the delay domain.
> But now, we have already made extensions to the Watterson model.
> Hence, we are in a bandwidth regime where the Watterson model is
> not valid.
>
> BTW: Here is approximately what is said in ITU-R F.1487 "Testing of HF
> modems with bandwidths of up to about 12 kHz using ionospheric channel
> simulators":
> "... accomodate channel bandwidths in excess of 12 kHz using logical
> extensions of the present Gaussian model." (e.g. as I described in the
> previous section). "... For very wide bandwidth simulations this extended
> approach may not be tenable because the channel conditions may vary
> within the transmission bandwidth". I.e. the effects you have been
> discussing about nonlinear dispersion and stuff like the don't kick in at
> 12 kHz, but at "very wide bandwidths".
>
> 73 de LA5NJA / Roald Otnes
>
>
>
> ---
> You are currently subscribed to hfsig as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

45. [hfsig] RE: HVXC vocoder

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Wed, 19 Jun 2002 17:58:21 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85778-2002.06.19-13.07.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> You may be suffering problems with FTPing with a browser.
> Try FTPing with a FTP program and see what happens.

I may be suffering the effects of an HTTP proxy!

I managed to get it, and Robert Schneider has also
dropped a copy in my inbox. Thanks.

I'll compile it (and AFsp) under cygwin when I get time,
and make some demo files.

M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

46. [hfsig] Test simulator

From: Zhang Yubing <yubingz@21cn.com>
Date: Thu, 20 Jun 2002 17:34:13 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85880-2002.06.20-05.06.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

    I know Channel simulator can test Modems. But I don't know how to test the channel simulator?

Zhang Yubing

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

47. [hfsig] RE: HVXC vocoder

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Thu, 20 Jun 2002 18:17:57 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85918-2002.06.20-13.20.14--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I uploaded the MELP and MELPe coders and some
demo files I produced from MELPe. I've indexed
the files at
http://homepage.ntlworld.com/mtn/ham/index.htm

Ant

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

48. [hfsig] RE: HVXC vocoder

From: Michael Buyanin <dsp4us@yahoo.com>
Date: Thu, 20 Jun 2002 13:49:48 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-85936-2002.06.20-16.27.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- Anthony N Martin <Anthony.N.Martin@marconi.com>
wrote:
>
> I uploaded the MELP and MELPe coders and some
> demo files I produced from MELPe. I've indexed
> the files at
> http://homepage.ntlworld.com/mtn/ham/index.htm
>
> Ant
>
Thanks.

Here is what I have found lately on
http://www.tnt.uni-hannover.de/project/mpeg/audio/public/w2424.html:

snip-----------
Experiment 1
MPEG-4 HVXC at both 2.0 and 4.0 kbit/s outperform the
reference codec FS1016 at 4.8 kbit/s. Additionally,
the HVXC coder has functionality, such as pitch and
speed change and bit-rate scalability.
snip-----------

Is it relevant?

Michael

K6DSP

_____
Do You Yahoo!?
Yahoo! - Official partner of 2002 FIFA World Cup
http://fifaworldcup.yahoo.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

49. [hfsig] RE: HVXC vocoder

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 21 Jun 2002 16:02:56 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-86070-2002.06.21-11.09.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Experiment 1
MPEG-4 HVXC at both 2.0 and 4.0 kbit/s outperform the
reference codec FS1016 at 4.8 kbit/s. Additionally,
the HVXC coder has functionality, such as pitch and
speed change and bit-rate scalability.

But why are they comparing it with the outdated
CELP coder? And not the current technology MELPe?

It's like comparing a new model of car with a model-T
Ford and concluding "Yep, fuel economy is better.
And it comes in 6 colours, not just black!"

It makes more sense comparing it with the most recent
competitive peer technologies that offer the current
best-in-class performance. Is it up there with the
race leaders?

Interesting there's no comparison of CPU cycles! HVXC
is without doubt the most costly encoder out there in
CPU terms, and memory terms, probably streets ahead
even of MELPe. I expect the decoder isn't much
different.

So even though it beats the Model-T on performance,
features, and load carrying space, it consumes
far more fuel.

Ant

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

50. [hfsig] RE: HVXC vocoder

From: Michael Buyanin <dsp4us@yahoo.com>
Date: Fri, 21 Jun 2002 09:24:50 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-86074-2002.06.21-12.02.04--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have managed to compile HVXC encoder and decoder
programs running on Windows/DOS. If anybody wants to
play with it to see what kind of quality sound they
can achieve, let me know.
Or may be it makes sense to post them on the web.
Unfortunately I do not have one. Antony, can you add
to your list two more executable files? Or on the TAPR
server?

Michael
K6DSP

_____
Do You Yahoo!?
Yahoo! - Official partner of 2002 FIFA World Cup

http://fifaworldcup.yahoo.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

51. [hfsig] RE: HVXC vocoder

From: "Steven Bible" <n7hpr@tapr.org>
Date: Sat, 22 Jun 2002 18:07:33 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-86253-2002.06.22-20.44.55--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Michael,

We can post them on the TAPR server. Would the best place be the TAPR
Digital Voice page?

Let me know how I can help.

- Steve, N7HPR
  (n7hpr@tapr.org)

> -----Original Message-----
> From: bounce-hfsig-6874@lists.tapr.org
> [mailto:bounce-hfsig-6874@lists.tapr.org]On Behalf Of Michael Buyanin
> Sent: Friday, June 21, 2002 9:25 AM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] RE: HVXC vocoder
>
>
> I have managed to compile HVXC encoder and decoder
> programs running on Windows/DOS. If anybody wants to
> play with it to see what kind of quality sound they
> can achieve, let me know.
> Or may be it makes sense to post them on the web.
> Unfortunately I do not have one. Antony, can you add
> to your list two more executable files? Or on the TAPR
> server?
>
> Michael
> K6DSP
>
>
>
> _____
> Do You Yahoo!?
> Yahoo! - Official partner of 2002 FIFA World Cup
> http://fifaworldcup.yahoo.com
>
> ---
> You are currently subscribed to hfsig as: n7hpr@tapr.org
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

52. [hfsig] Re: Wide bandwidth HF simulation

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Mon, 24 Jun 2002 09:47:08 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-86399-2002.06.24-03.24.37--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan Forrer wrote:
>
> If one were to simulate a wider HF bandwidth as, say, a number of 3kHz
> adjacent Watterson channels working together, each driven by an
> independent RNG, would that help? I'm not too shure about discontinuities
> at the 3kHz band edges though.

No, that would make it even worse.

> On Wed, 19 Jun 2002, Roald Otnes wrote:

> > One simple approximation is to have "groups" of taps at closely spaced
> > delays fading together, i.e. just passing the tap in the Watterson model through
> > a filter broadening it in the delay domain.
> > But now, we have already made extensions to the Watterson model.
> > Hence, we are in a bandwidth regime where the Watterson model is
> > not valid.

That would be the way to simulate it. So you have a filter with fixed
(?) coefficients
that combines some adjacent taps of the delay line and that models the
dispersion.
The output of this filter then is multiplied with the fading as in the
Watterson model.

73' Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

53. [hfsig] RE: HVXC vocoder

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 24 Jun 2002 10:20:18 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-86400-2002.06.24-05.36.11--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Michael, I can put your HVXC executables on my web-page
if you like. (With credit to you.)

There's no harm having them on TAPR as well.

Have you built a DLL for the AFsp library? That would
also be useful. AFsp ships with windows binaries for the
executables but no pre-built library. Building DLLs is a
little more involved than static libraries, but we can be
sure of portability between compilers.

I can process the same example audio files and upload
those too.

I should also add plain old LPC-10 to the page, it's a
useful comparison.

M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

54. [hfsig] RE: HVXC vocoder

From: Michael Buyanin <dsp4us@yahoo.com>
Date: Wed, 26 Jun 2002 11:01:59 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-86805-2002.06.26-13.39.29--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- Anthony N Martin <Anthony.N.Martin@marconi.com>
wrote:
> Michael, I can put your HVXC executables on my
> web-page
> if you like. (With credit to you.)
>
> There's no harm having them on TAPR as well.
>

Anthony, I will send to you zip file with two
executables, file with snippets from README_usage and
encoding speech sample overall 6 files. You can decide

what to do with them. These are more experimental
programs than "final" product: not all parameters from
help list (-h option) are working and it can accept
only 16-bit AU files (which are not very common).
For me it is just step to bring them to the DSP chip,
and if anybody wants VC++ v6 project to clean it up or
optimize, I can certainly share.

> Have you built a DLL for the AFsp library? That
> would
> also be useful. AFsp ships with windows binaries for
> the
> executables but no pre-built library. Building DLLs
> is a
> little more involved than static libraries, but we
> can be
> sure of portability between compilers.
>
> I can process the same example audio files and
> upload
> those too.
>
> I should also add plain old LPC-10 to the page, it's
> a
> useful comparison.

As I mentioned, I would like to build embedded
solution based on HVXC vocoder and will strip down
those programs further to bare bones vocoder
processing.

For comparison there is an interesting resource:
http://www.hawksoft.com/hawkvoice/codecs.shtml but it
uses 8-bit AU voice samples and I have not found easy
way to convert them to 16-bit. Any ideas? Help?

Btw, HawkVoice is claimed to be free licensed
software.

--- Steven Bible <n7hpr@tapr.org> wrote:
>
> We can post them on the TAPR server. Would the best
> place be the TAPR
> Digital Voice page?
>
> Let me know how I can help.
>

Steven,
   I will copy the same zip file to you too.
   I agree that vocoder TAPR reflector and Digital
Voice page would be more appropriate place to further
discussions.
   I will be posting my updates there ([vocoder] mail
list).

Michael,
K6DSP

_____
Do You Yahoo!?
Yahoo! - Official partner of 2002 FIFA World Cup
http://fifaworldcup.yahoo.com

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

55. [hfsig] RE: HVXC vocoder

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Wed, 26 Jun 2002 21:20:35 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-86816-2002.06.26-16.47.29--lyris.hfsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

> Anthony, I will send to you zip file with two
> executables, file with snippets from README_usage and

Good.

> As I mentioned, I would like to build embedded
> solution based on HVXC vocoder and will strip down
> those programs further to bare bones vocoder
> processing.

Which CPU? You'll need to do some work to determine
the MIPs & RAM requirements.

Often these research implementations are not coded
for efficiency, but for clarity of understanding and
ease of modification.

Do you intend using C or convert to assembler?

As a rough idea, MELP you can do on a Motorola
56309 in pure C. MELPe is tight. Maybe a bit risky
if you don't want lots of optimisation work.

I think there's also a benchmark for Texas' version
on their website.

I wish you success.

> For comparison there is an interesting resource:
> http://www.hawksoft.com/hawkvoice/codecs.shtml but it
> uses 8-bit AU voice samples and I have not found easy
> way to convert them to 16-bit. Any ideas? Help?

Interesting URL. I'll listen to the files later. Some
benchmarks too. The benchmarks seem to reflect a lot
of implementation efficiency - if the LPC10 codec is
the code I'm thinking of, it's floating-point and
that may make it slower on his CPU than a fixed-point
implementation. The 4 versions of LPC being so
different doesn't make much sense.

AFsp "CopyAudio" will convert. Executables are provided
in the AFsp download. (There is a separate library only
distribution without utilities or executables).

AFsp utilities will automatically identify input file
formats from file headers by default. If the output
file is to be different it must be specified.

Flags to generate 16-bit AU would be
-F AU -D integer16

Flags to generate 16-bit WAV would be
-F WAVE -D integer16

For almost any other format RTFM.

[FYI AFsp ResampAudio can perform abitrary sample rate
conversion. CopyAudio can relabel the sample rate of
files so they play faster or slower. GenNoise makes
gaussian noise - which you could add to other files.
CompAudio can work out things like true RMS and SNR.]

Ant M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

56. [hfsig] FYI

From: Johan Forrer <forrerj@suki.oregon-hw-sw.com>
Date: Fri, 28 Jun 2002 07:53:50 -0700 (PDT)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87119-2002.06.28-11.02.20--lyris.hfsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Hi all,

Sorry to waste bandwidth:

Just to let everyone know that might be looking for me or materials on my
web page. That has now moved to my own domain that I'll be managing
myself. I hope to expand the page with new materials and will continue
work on the HF channel simulator, HF digital modems, SDR, SS, and other
exciting technologies. Please note the following:

e-mail: forrerj@oregon-hw-sw.com
web: http://www.oregon-hw-sw.com

Thanks and 73,

Johan Forrer, KC7WW

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

57. [hfsig] HF channel simulator (Was: FYI)

From: Tomi Manninen <tpm@prkele.tky.hut.fi>
Date: Sat, 29 Jun 2002 00:08:52 +0300 (EEST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87145-2002.06.28-16.46.35--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 28 Jun 2002, Johan Forrer wrote:

> Just to let everyone know that might be looking for me or materials on my
> web page. That has now moved to my own domain that I'll be managing
> myself. I hope to expand the page with new materials and will continue
> work on the HF channel simulator, HF digital modems, SDR, SS, and other
> exciting technologies. Please note the following:
>
> web: http://www.oregon-hw-sw.com

...and thus the place to download "the" HF channel simulator for Linux is
now:

  http://www.oregon-hw-sw.com/SIMULR/chansim-0.56-bns-3.tgz

Note that this is a new version. The most important improvement in this
version is speed. I have optimised the internals somewhat and thus
off-line simulations with piped I/O run conciderably faster than with the
previous version.

--
Tomi Manninen   Internet: oh2bns@sral.fi
OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

July 2002

Original source file: hfsig.0207
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0207

1. [hfsig] Software for LF MSK?

From: "Greenman Family" <coombedn@ihug.co.nz>
Date: Wed, 3 Jul 2002 07:45:50 +1200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87790-2002.07.02-15.37.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Folks,

Does anybody know of PC/sound card software for decoding LF transmissions,
such as those used for Differential GPS? I am especially interested in
copying stations below 30 kHz. Oh, preferably WIN software, rather than
LINUX.

Also, what about software for monitoring LORAN?

73,

Murray ZL1BPU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] RE: HVXC vocoder

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Wed, 3 Jul 2002 12:14:04 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-87912-2002.07.03-07.34.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have uploaded the Win32 binary executables built
from the MPEG4 HVXC reference implementation by
Michael Buyanin.

I have also generated and uploaded demo audio
files for HVXC.

The audio plays OK for me in MSIE5.5/Mediaplayer7.1
and Netscape6.2/QuickTime. YMMV. I haven't tested
all the links yet; anything broken please mail me.

I will credit Michael K6DSP on the page but after
forwarding the files his details weren't to hand!

http://homepage.ntlworld.com/mtn/ham/index.htm

Ant M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] the meaning of 'magnetoionic component'

From: Zhang Yubing <yubingz@21cn.com>
Date: Thu, 11 Jul 2002 9:56:20 +0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88869-2002.07.10-21.34.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

    In the Watterson's original paper, I read, 'that each tap-gain function has a spectrum that in general is the sum of two Gaussian functions of frequency, one for each magnetoionic component' . Could you explain the meanning of 'magnetoionic component'?
   Thanks a lot!

Yubing Zhang

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: the meaning of 'magnetoionic component'

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Thu, 11 Jul 2002 11:41:51 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88909-2002.07.11-06.38.21--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Could you explain the meanning of 'magnetoionic component'

Each tap has modulated in-phase and quadrature components. This
means it suffers both amplitude and phase modulation. The
in-phase and quadrature variations are uncorrelated. Or observed
another way, the amplitude and phase variation is uncorrelated.

Of course, this doesn't explain Watterson's turn of phrase, or
why the ionosphere does this. Maybe Rayleigh is the man to
ask.

Presumably the reasoning has to do with the composition
of radio waves from quadrature electrical and magnetic
components, and consequently our ability to consider it as
propagating with two quadrature polarisation components.

This begs the question: if you have a dual polarisation-
diversity receiver, apart from just getting 3dB more power,
can you combine the signals and choose to suppress either
the amplitude or phase modulation effects on Watterson's
taps? If so, that would eliminate the need for long-delay
interleavers to combat fading in HF modems. Delay is
painful on half-duplex links and in TCP/IP networks.

Ant, M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: the meaning of 'magnetoionic component'

From: "Don Adams" <wa8qzz@arrl.net>
Date: Thu, 11 Jul 2002 11:21:52 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-88919-2002.07.11-11.00.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://roland.lerc.nasa.gov/~dglover/dictionary/m.html#magnetoionic%20theory

> Could you explain the meanning of 'magnetoionic component'

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: the meaning of 'magnetoionic component'

From: Richard B Morrow <k5cnf1@juno.com>
Date: Thu, 11 Jul 2002 21:22:15 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89002-2002.07.11-22.03.59--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Don.

No. I have no idea and neither does a friend of mine that retired from
NASA. Might try Google and see what turns up. I would be interested in
finding out myself.

73, Richard, K5CNF

On Thu, 11 Jul 2002 11:21:52 -0400 "Don Adams" <wa8qzz@arrl.net> writes:
>
>
http://roland.lerc.nasa.gov/~dglover/dictionary/m.html#magnetoionic%20the
ory
>
>
>
> > Could you explain the meanning of 'magnetoionic component'
>
>
>
> ---
> You are currently subscribed to hfsig as: K5CNF1@JUNO.COM
> To unsubscribe send a blank email to
> leave-hfsig-4070F@lists.tapr.org
>
>

_____
GET INTERNET ACCESS FROM JUNO!
Juno offers FREE or PREMIUM Internet access for less!
Join Juno today! For your FREE software, visit:
http://dl.www.juno.com/get/web/.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: the meaning of 'magnetoionic component'

From: "Haineault,Bruno" <bhaineault@dtwc.com>
Date: Fri, 12 Jul 2002 11:54:45 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: "'k5cnf1@juno.com'" <k5cnf1@juno.com>
Message-ID: <LYR4070-89064-2002.07.12-14.34.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Extracted from the same NASA site:
http://roland.lerc.nasa.gov/~dglover/dictionary/m.html#magnetoionic%20theory

"magnetoionic theory"

The theory of propagation of electromagnetic radiation through a medium
containing ions in the presence of an external magnetic field.
It applies to the propagation of radio waves in the ionosphere, and provides
theoretical relationships among such aspects of the subject as the index of
refraction, radiofrequency, free-electron density, electron collision
frequency, the earth's magnetic field (components relative to the direction
of propagation), the nature of polarization, etc. See magnetic double
refraction.

"magnetoionic wave component"
Either of the two elliptically polarized wave components into which a
linearly polarized electromagnetic wave, incident of the ionosphere, is
separated because of the earth's magnetic field."

Regards,

Bruno Haineault
Director of Sustaining and Systems Engineering

-----Original Message-----
From: Richard B Morrow [mailto:k5cnf1@juno.com]
Sent: Thursday, July 11, 2002 7:22 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: the meaning of 'magnetoionic component'

Hi Don.

No. I have no idea and neither does a friend of mine that retired from NASA.
Might try Google and see what turns up. I would be interested in finding out
myself.

73, Richard, K5CNF

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] the meaning of 'magnetoionic component'

From: "Thomas C. McDermott" <TCMcDermott@compuserve.com>
Date: Fri, 12 Jul 2002 21:47:43 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89107-2002.07.12-21.27.21--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The ionosphere is bi-refringent, so an incident wave separates into two components, the ordinary wave (O) and the extraordinary wave (X). These then refract and propagate independently and are received by the receiver at slightly different times and with different doppler shifts and fading rates.
The two taps refered to by Watterson are due to the independent reception of these X- and O- components.

The CCIR Report 549-3 [1990] says that the two components are widely enough separated for the 1E-mode hop that they can be resolved, while the two components
propagated via the 1F, 2F, and mixed-hop modes are too close together in frequency to be resolved. Many simulators just ignore the two components, and
instead only use one - an approximation, but one that does not really harm the
quality of the simulator in testing modems.

-- Tom, N5EG

>In the Watterson's original paper, I read, 'that each tap-gain function has a
>spectrum that in general is the sum of two Gaussian functions of frequency,
>one for each magnetoionic component' . Could you explain the meanning
>of 'magnetoionic component'?
>   Thanks a lot!
>
>Yubing Zhang

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] What is the most robust way to decode FSK using a DSP ?

From: CLAUDE@BAUV106.BAUV.UNIBW-MUENCHEN.DE
Date: Tue, 16 Jul 2002 08:12:28 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89567-2002.07.16-01.50.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The subject is the question.

73,
Claude

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: What is the most robust way to decode FSK using a DSP ?

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Tue, 16 Jul 2002 09:51:11 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89601-2002.07.16-03.29.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

CLAUDE@BAUV106.BAUV.UNIBW-MUENCHEN.DE wrote:
>
> The subject is the question.

This is a very general question.

So first: what kind of FSK? Continious-Phase FSK? So is the phase

continuous between symbols or are there discontinuities? On what kind of
channel?

Given AWGN and CPFSK the most robust decoder is maximum-likelihood
sequence estimation, but that is only feasable for binary or maybe 4 FSK
and short length of the FSK symbols (overlapping maybe max. 5 symbols).

Then you have the class of CPFSK based on MSK like GMSK which can be
decoded as if it were QPSK.

If symbols do not overlap (as eg. for Pactor etc.) and you don't have
precise control over the phase, you can only decode non-coherently (and
of course loose a lot of robustness). Then it depends on wether the 2
"tones" used are correlated or really orthogonal. To be orthogonal the
frequency deviation needs to be a multiple of the symbol rate. If they
are orthogonal you can use to filters to completely seperate the two
possible signals. If not you have to chose a compromise, eg. if you make
the filter bandwidth smaller you loose part of the received energy of
the "right" signal but you increase rejection of the "wrong" signal. You
can compare the energy in both filters and chose the filter with more
energy.

Last we have FSK like the 9k6 G3RUH/DF9IC type modems where the FSK is
already demodulated in an FM receiver (limiter-discriminator type
receiver). There we usually only have a low-pass filter and a decision
unit. That is sub-optimal as the noise at the decision unit is
correlated. So a whitened matched filter (WMF) and a DFE may improve the
receiver by some dB (I've done that for 4-FSK).

I don't know if there are clever algorithms "in between" for
non-coherent FSK detection (symbol by symbol here instead of
multiple-symbol for the MLSE case) but maybe. That would be more robust
but a lot more complicated.

So as long as we don't know what kind of FSK you are dealing with, the
answer is not easy...

73' Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] What is the most robust way to decode FSK using a DSP ?

From: Claude Frantz <r31dmaeu@pc0312a.rz.unibw-muenchen.de>
Date: Wed, 17 Jul 2002 06:36:47 +0200 (CEST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89724-2002.07.17-00.15.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Subject: Re: What is the most robust way to decode FSK using a DSP ?
> From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
> Date: Tue, 16 Jul 2002 09:51:11 +0200
> X-Message-Number: 2
>
> CLAUDE@BAUV106.BAUV.UNIBW-MUENCHEN.DE wrote:
> >
> > The subject is the question.
>
> This is a very general question.
>
> So first: what kind of FSK? Continious-Phase FSK? So is the phase
> continuous between symbols or are there discontinuities? On what kind of
> channel?

Thanks for you reply, Alex. My question is mainly related to the classical
amateur RTTY on short wave, 45.45 Bauds "Baudot" code.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Re: the meaning of 'magnetoionic component'

From: hfsig@ka9q.net
Date: Thu, 18 Jul 2002 06:00:14 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-89953-2002.07.18-08.38.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>This begs the question: if you have a dual polarisation- diversity
>receiver, apart from just getting 3dB more power, can you combine the
>signals and choose to suppress either the amplitude or phase
>modulation effects on Watterson's taps? If so, that would eliminate
>the need for long-delay interleavers to combat fading in HF
>modems. Delay is painful on half-duplex links and in TCP/IP networks.

You can indeed use a dual polarization receive chain to combine the
signals coherently. And this does provide diversity in addition to the
3dB increase in average signal power. But it's not a complete
substitute for diversity in other dimensions. Ideally you
simultaneously exploit as much diversity in each dimension as you can
afford. I.e., you want interleaving (time diversity) *and* spreading
(frequency diversity) *and* multiple antennas (spatial and
polarization diversity).

As a practical matter, time and frequency diversity tend to be easier
to implement than polarization and spatial diversity, especially when
large antennas are involved. But it is used; CDMA digital cellular is
an example of a system that uses all three forms of diversity. That's
why you usually see multiple antennas on each face of a cellular
tower.

--Phil

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Write for PSR

From: "stanzepa@earthlink.net" <stanzepa@earthlink.net>
Date: Thu, 18 Jul 2002 13:17:24 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: stanzepa@earthlink.net
Message-ID: <LYR4070-90016-2002.07.18-13.00.12--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR members:

Here is your chance to become rich and famous! Well, maybe not rich, but
certainly famous.

The editorial board of Packet Status Register (PSR, TAPR□s quarterly
newsletter) is now soliciting articles, news items, etc. for the next issue
of the newsletter. Topics related to digital Amateur Radio will be given
preference and the editorial board reserves the right to determine what is
suitable for publication.

E-mail your contributions to wa1lou@tapr.org ASAP because the deadline for
the next issue of the newsletter is July 24.

73,

Stan Horzepa, WA1LOU, PSR Editor

----
mail2web - Check your email from the web at
http://mail2web.com/ .

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] RE: What is the most robust way to decode FSK using a DSP ?

From: "Don Adams" <wa8qzz@arrl.net>
Date: Mon, 22 Jul 2002 12:39:59 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-90589-2002.07.22-12.18.30--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This FSK has brought up another thought or tangent. I work for a company
that does (among other things) some short range radio telemetry using FSK.
They only use about 100 bits of error correction in a block of about 2500
bits. They also use ACK/NACK system. It's my feeling the this small amount
of forward error correction is too small. Doesn't FEC usually have
significate rudundancy eg CD's with 24 bits to make 16?
My feeling is that the ACK/NACK is what gets the data thru and not the FEC.
Any thoughts?

Don wa8qzz

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] RE: What is the most robust way to decode FSK using a DSP ? <LYR27905-90589-2002.07.22-12.18.30--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Mon, 22 Jul 2002 17:47:15 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-90624-2002.07.22-17.26.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You have given us insufficient information to determine if you
even need FEC. If every link is 100 dB SNR, then I think
it is a waste. What is the fading environment, what are the
ranges of SNR, what is the bit rate and what is the shift?
You get the idea.

Bob
N4HY

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Don Adams
Sent: Monday, July 22, 2002 12:40 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: What is the most robust way to decode FSK using a
DSP ?

This FSK has brought up another thought or tangent. I work for a company
that does (among other things) some short range radio telemetry using FSK.
They only use about 100 bits of error correction in a block of about 2500
bits. They also use ACK/NACK system. It's my feeling the this small amount
of forward error correction is too small. Doesn't FEC usually have
significate rudundancy eg CD's with 24 bits to make 16?
My feeling is that the ACK/NACK is what gets the data thru and not the FEC.
Any thoughts?

Don wa8qzz

You are currently subscribed to hfsig as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

16. [hfsig] RE: What is the most robust way to decode FSK using a DSP ? <LYR27905-90589-2002.07.22-12.18.30--rwmcgwier#comcast.net@lists.tapr.org>

From: "Don Adams" <wa8qzz@arrl.net>
Date: Tue, 23 Jul 2002 13:23:50 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>

Message-ID: <LYR4070-90704-2002.07.23-13.02.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for the reponse Bob,
There are basically 2 systems. The old one was 900 Mhz 1dbm. Short range telemetry 50-100 feet, 40kBaud, packet was 256 bits with 40 bits of FEC. The newer system 2.4Ghz has power control (upto 1 watt) and it attemps to maintain 15db SNR, about 200 Kbaud (bps in this case) Minimum or Gausian shift keying. This one (that I questioned) only has 100 bits out of 2500 bits (not bytes) and this is one I think is too small.

-----Original Message-----
From: bounce-hfsig-23330@lists.tapr.org
[mailto:bounce-hfsig-23330@lists.tapr.org]On Behalf Of Robert McGwier
Sent: Monday, July 22, 2002 5:47 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: What is the most robust way to decode FSK using a DSP ?
<LYR27905-90589-2002.07.22-12.18.30--rwmcgwier#comcast.net@lists.tapr.org>

You have given us insufficient information to determine if you even need FEC. If every link is 100 dB SNR, then I think it is a waste. What is the fading environment, what are the ranges of SNR, what is the bit rate and what is the shift? You get the idea.

Bob
N4HY

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Don Adams
Sent: Monday, July 22, 2002 12:40 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: What is the most robust way to decode FSK using a DSP ?

This FSK has brought up another thought or tangent. I work for a company that does (among other things) some short range radio telemetry using FSK. They only use about 100 bits of error correction in a block of about 2500 bits. They also use ACK/NACK system. It's my feeling the this small amount of forward error correction is too small. Doesn't FEC usually have significate rudundancy eg CD's with 24 bits to make 16?
My feeling is that the ACK/NACK is what gets the data thru and not the FEC. Any thoughts?

Don wa8qzz

You are currently subscribed to hfsig as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: wa8qzz@arrl.net
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

August 2002

Original source file: hfsig.0208
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0208

1. [hfsig] 2002 issue of Packet Status Register (PSR)

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Tue, 06 Aug 2002 19:57:06 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-93036-2002.08.06-19.38.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The summer 2002 issue of Packet Status Register (PSR) is now available at
www.tapr.org.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Help on AX.25 Layer 2 Protocol

From: "Mitchell Tom" <tom.mitchell@busmail.net>
Date: Fri, 23 Aug 2002 16:42:59 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-95284-2002.08.23-10.30.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm currently busy on a project were 2 terminals need to communicate point to point
via RF.
I have been implementing the data link layer statemachine found in the appidenxes
of the document AX.25 Protocol v2.2 - rev.11.

I've some troubles understanding the selective repeart scheme, hopefully
someone is willing to help me :

```
Initial transmit
N(s) - V(s)
0        0-->1
1        1-->2
2        2-->3
4        3            SREJ3 (F=1) + Push N(s) 4 on Queue
5        3            SREJ5 (F=0) + Push N(s) 5 on Queue
6        3            SREJ6 (F=0) + Push N(s) 6 on Queue


Retransmit + Initial transmit
N(s) - V(s)
3         3-->7    POP Frames N(s) 4 + 5 + 6 from Queue
4         7           ??? ERROR ???
5
6
7
```

Is this correct , or do the Expedited commands (SREJ + RR)   interrupt the
transmitting node from sending ?

3. [hfsig] Re: Help on AX.25 Layer 2 Protocol

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Fri, 23 Aug 2002 17:10:56 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-95286-2002.08.23-10.51.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Mitchell Tom wrote:
>
> I'm currently busy on a project were 2 terminals need to communicate
> point to point
> via RF.
> I have been implementing the data link layer statemachine found in the
> appidenxes
> of the document AX.25 Protocol v2.2 - rev.11.

You are probably the only one who ever tried to *implement* v2.2.
As far as I understand it nobody ever tried to as it was too
complicated/wierd and
incompatible with v2.1.

73' Alexander

```
--
Alexander F. Kurpiers            | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax  : +49-6151-165545
Merckstrasse 25                  | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany)      | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
```

4. [hfsig] Re: Help on AX.25 Layer 2 Protocol

```
From: "Mitchell Tom" <tom.mitchell@busmail.net>
Date: Sat, 24 Aug 2002 11:34:37 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-95418-2002.08.24-05.18.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Is it the SABME + SREJ commands that make it so complicated ?

I've read about the "frame collector scheme" (which is compatible with
v2,0?),
but I think I don't completely understand the working.

I don't see the benefit of the repeat schemes, When I use a retrievel queue
to resequence my messages.
The transmitting node still has to retransmit the mesages which I hold on my
resequence Queue. When I pop my frames from the resequence Queue my
sendstate varaiable
V(s) is not equal to the received send sequence number N(s)...

In my application I need to be able to send up to 127 commands per
layer 2 connection. (SABME).

I don't have to be fully compatible with the AX.25 statndard. But I think
it is a good base for my appplication ...

----- Original Message -----
From: "Alexander Kurpiers" <a.kurpiers@nt.tu-darmstadt.de>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Friday, August 23, 2002 5:10 PM
Subject: [hfsig] Re: Help on AX.25 Layer 2 Protocol


> > Mitchell Tom wrote:
> >
> > I'm currently busy on a project were 2 terminals need to communicate
> > point to point
> > via RF.
> > I have been implementing the data link layer statemachine found in the
> > appidenxes
> > of the document AX.25 Protocol v2.2 - rev.11.
>
> You are probably the only one who ever tried to *implement* v2.2.
> As far as I understand it nobody ever tried to as it was too
> complicated/wierd and
> incompatible with v2.1.
>
> 73' Alexander
>
> --
> Alexander F. Kurpiers            | Voice: +49-6151-162369
> Institut fuer Nachrichtentechnik | Fax  : +49-6151-165545
> Merckstrasse 25                  | EMail: a.kurpiers@nt.tu-darmstadt.de
> D-64283 Darmstadt (Germany)      | Hamradio: dl8aau@db0ais.#hes.deu.eu
>
> ---
> You are currently subscribed to hfsig as: tom.mitchell@busmail.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>


---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
```

5. [hfsig] Re: Help on AX.25 Layer 2 Protocol <LYR27905-95418-2002.08.24-05.18.34--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Sat, 24 Aug 2002 08:12:35 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-95433-2002.08.24-07.52.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Use V 2.1. The easy to follow state description language
is published in a previous proceedings of a TAPR conference.
Following these diagrams makes it easy to get your state machine
correct. I cannot remember which volume this is in (Eric's
paper). Can someone remind the senile amongst us?

Bob N4HY

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Mitchell Tom
Sent: Saturday, August 24, 2002 5:35 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: Help on AX.25 Layer 2 Protocol

Is it the SABME + SREJ commands that make it so complicated ?

I've read about the "frame collector scheme" (which is compatible with
v2,0?),
but I think I don't completely understand the working.

I don't see the benefit of the repeat schemes, When I use a retrievel queue
to resequence my messages.
The transmitting node still has to retransmit the mesages which I hold on my
resequence Queue. When I pop my frames from the resequence Queue my
sendstate varaiable
V(s) is not equal to the received send sequence number N(s)...

In my application I need to be able to send up to 127 commands per
layer 2 connection. (SABME).

I don't have to be fully compatible with the AX.25 statndard. But I think
it is a good base for my appplication ...

----- Original Message -----
From: "Alexander Kurpiers" <a.kurpiers@nt.tu-darmstadt.de>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Friday, August 23, 2002 5:10 PM
Subject: [hfsig] Re: Help on AX.25 Layer 2 Protocol

> > Mitchell Tom wrote:
> >
> > I'm currently busy on a project were 2 terminals need to communicate
> > point to point
> > via RF.
> > I have been implementing the data link layer statemachine found in the
> > appidenxes
> > of the document AX.25 Protocol v2.2 - rev.11.
>
> You are probably the only one who ever tried to *implement* v2.2.
> As far as I understand it nobody ever tried to as it was too
> complicated/wierd and
> incompatible with v2.1.
>
> 73' Alexander
>
> --
> Alexander F. Kurpiers | Voice: +49-6151-162369
> Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
> Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
> D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu
>
> ---
> You are currently subscribed to hfsig as: tom.mitchell@busmail.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

September 2002

Original source file: hfsig.0209
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0209

1. [hfsig] Decimation filter for PSK31

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Sun, 22 Sep 2002 23:47:09 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100023-2002.09.22-23.28.44--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm not a huge DSP person. I can somewhat understand complex
and analytic signals and FFTs and such, but I start to get
lost whenever someone talks about filter design and says 'poles
and zeros'. I start to glaze over, etc. I'm willing to learn,
but I'm not sure how. That would be a sufficient answer. :)

The question:

I want to design a decimation filter for PSK31 that will take
an input signal at 1KHz and output a signal sampled at 62.5
or 31.25 or such Hz. I think I can handle the baseband work,
but FIR and IIR filters are brick walls to me (pun intended).

The thing that I think could make this clever is that the actual
sampling rate for the incoming signal *is not fixed*. Pick whatever
makes the filter simpler(est). I want to implement this on a
really small micro--you one so small people will look at me
funny if I say I want to *receive* PSK31 on it? So, I won't say
which one. ;) I'm already getting stared at oddly enough for
this project.

Anyone got any pointers?

Thanks.

Cheers,
David

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: Decimation filter for PSK31

From: "CHIGA" <nh7s@hawaii.rr.com>
Date: Sun, 22 Sep 2002 19:14:20 -1000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100048-2002.09.23-00.58.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Dave,

    I'm attempting an answer because I believe the experts are probably too
busy to answer your question. While I've been trying to dabble in DSP for
the last four years, I'm probably behind your understanding. That is, I'm
no Electronic/Electrical Engineer. Most of the books I have are for
Engineers or graduate students. This means there's a large learning curve
to working in DSP if you're starting from ground zero and all you really
care about is Amateur Radio.

    There's a lot to consider. I'm not into filtering at this time/ I
suggest you look at some of the documentation on the TAPR site
(www.tapr.org/tapr/html/dspf.html) look into a finding out what available
software is around for an available EVM. Also consider the article in TAPR
Summer 2002 PSR Newsletter about the FHSS radio project
(www.tapr.org/tapr/html/Fpsr.html). The FHSS project is having difficulty
with recent parts that are no longer being manufactured. Expect the same
difficulty with DSP chips.

    Now some more bad news. I'm using Texas Instruments 'C6711 DSK
(www.dspvillage.com , www.ti.com) that costs $300 or so. On the bright
side, it includes some good software development tools, a C compiler. But
the example programs are difficult for me to get going. So I ordered a
specialized text book "DSP Applications Using C" by Rulph Chassing, ISBN
0-471-20754-3, which set me back another $85 (less then 400 pages). There
are three chapters on filters: "Finite Impulse Response Filters," "Infinite
Impulse Response Filters," and "Adaptive Filters." Sorry I don't know

what's applicable to decimation filters, (remember I'm no Electrical Engineer and I'm not into filtering right now).

Oh, another consideration is the the TI 'C6711 DSK has a fixed sampling rate of 8 Khz (8,000 samples per second is a more accurate term). I don't see how it would matter that you need a variable sampling rate for PSK31. If you don't understand my comment, then DSP might not be for you, (just a fair warning, I'm not trying to discourage you). What I would do for a variable sample rate when my sample rate is a constant 8 Khz is just throw away the data points that I don't need. So if I'd want 1,000 samples per second, I'd only work on the samples of modulo 8.

One reason I would think of to decrease the sample rate is to allow the DSP processor to peform its tasks. But the 'C6711 uses 150 Mhz so I don't think you'll need to decrease the sample rate. Geez, 150 Mhz, remember when a Z-80 was fast at 4 Mhz?

So if you're willing to put in the time and money (in the end, it's cheaper to buy a new HF rig) and are a dire hard homebrew type, then the TI DSK might be the way to go. If you've got money to burn, then the 'C6711 EVM for something over $2,000 would be better (in which you can change the sample rate). I had difficulty finding out information on Motorola, Analog devices, etc, EVMs and what was on the TAPR site was out of date. TI had more information available, good websites and seemed to have more backing to their stuff although no software dedicated for Amateur Radio and very little development for Amateur Radio (using TI devices). I just thought TI was the way to go.

Hopefully a more informed person can give you a better answer.

73 - Cal NH7S.

----- Original Message -----
From: "David Willmore" <davidwillmore@iamanidiot.com>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Sunday, September 22, 2002 5:47 PM
Subject: [hfsig] Decimation filter for PSK31

> I'm not a huge DSP person. I can somewhat understand complex
> and analytic signals and FFTs and such, but I start to get
> lost whenever someone talks about filter design and says 'poles
> and zeros'. I start to glaze over, etc. I'm willing to learn,
> but I'm not sure how. That would be a sufficient answer. :)
>
> The question:
>
> I want to design a decimation filter for PSK31 that will take
> an input signal at 1KHz and output a signal sampled at 62.5
> or 31.25 or such Hz. I think I can handle the baseband work,
> but FIR and IIR filters are brick walls to me (pun intended).
>
> The thing that I think could make this clever is that the actual
> sampling rate for the incoming signal *is not fixed*. Pick whatever
> makes the filter simpler(est). I want to implement this on a
> really small micro--you one so small people will look at me
> funny if I say I want to *receive* PSK31 on it? So, I won't say
> which one. ;) I'm already getting stared at oddly enough for
> this project.
>
> Anyone got any pointers?
>
> Thanks.
>
> Cheers,
> David
>
> ---
> You are currently subscribed to hfsig as: nh7s@hawaii.rr.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Decimation filter for PSK31

From: "Thomas C. McDermott" <TCMcDermott@compuserve.com>
Date: Mon, 23 Sep 2002 02:37:45 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100052-2002.09.23-02.21.47--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

David:

        The process for decimation is to first low-pass filter the
signal, then decimate it. The filter needs to remove almost all of the
signal -- that is, all components above 1/2 the decimated ooutput
sample rate.

        In general, it takes a big FIR filter to do this - lots of taps,
or an IIR filter that's sometimes tricky. A more elegant solution to the
decimation problem is to use a CIC filter, which approximates the
low-pass filter through a couple of stages. The CIC (Cascaded
Integrator Comb) filter is designed to be efficient at large decimation
ratios.

        Turns out to be really easy to implement since all the taps
have a value of +1 or -1; it's like a set of shift registers and adders.
Several
of the Integrators are cascaded, the signal is decimated, then several
comb filters are cascaded. The process can be repeated several times,
each stage performing some of the decimation (if the ratio is a nice
integer multiple). Of course, you have to be careful about numeric overflow
when integrating a signal...

There are some filter design packages that will let you vary the ratios of
the number of I, D, and C stages and plot the results. I think the Intersil
(formelry Harris) web site may have one.

        Good references:

1) "Digital Signal Processing in Communication Systems", Marvin E.
Frerking, pg 199. ISBN 0-442-01616-6   (my all-time favorite DSP book).

2) "An Economical Class of Digital Filters for Decimation and
Interpolation",
Hogenauer, H. B., IEEE Transactions on Acoustics, Speech, and Signal
Processing, vol. ASSP-29, number 2, April 1981

        -- Tom, N5EG

>
>The question:
>
>I want to design a decimation filter for PSK31 that will take
>an input signal at 1KHz and output a signal sampled at 62.5
>or 31.25 or such Hz. I think I can handle the baseband work,
>but FIR and IIR filters are brick walls to me (pun intended).
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] RE: Decimation filter for PSK31 <LYR27905-100023-2002.09.22-23.28.44--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Mon, 23 Sep 2002 06:07:56 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100059-2002.09.23-05.49.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

David:

In its simplest form, a decimation filter is nothing more than
a low pass filter. In your case, this filter will need to have
a cut off below the Nyquist rate (1/2 the final sample rate) in
order to cut off all the stuff that would be aliased into the
new band.   If your final signal has as its sample rate 62.5 Hz,
then its Nyquist frequency is 31.25 Hz.

So design a lowpass filter and then simple decimate by 16 and you
are there (1000/16 = 62.5). The lowpass filter needs to have a
zero at or very near 31.25 Hz to eliminate significant aliasing.

Your request leaves me with the feeling that we should ask more
question. What problem are you trying to do that would require
a 1000Hz sample rate in the beginning and then be decimated
by a factor of 16 or 32?

Bob

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of David Willmore
Sent: Sunday, September 22, 2002 11:47 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Decimation filter for PSK31

I'm not a huge DSP person. I can somewhat understand complex
and analytic signals and FFTs and such, but I start to get
lost whenever someone talks about filter design and says 'poles
and zeros'. I start to glaze over, etc. I'm willing to learn,
but I'm not sure how. That would be a sufficient answer. :)

The question:

I want to design a decimation filter for PSK31 that will take
an input signal at 1KHz and output a signal sampled at 62.5
or 31.25 or such Hz. I think I can handle the baseband work,
but FIR and IIR filters are brick walls to me (pun intended).

The thing that I think could make this clever is that the actual
sampling rate for the incoming signal *is not fixed*. Pick whatever
makes the filter simpler(est). I want to implement this on a
really small micro--you one so small people will look at me
funny if I say I want to *receive* PSK31 on it? So, I won't say
which one. ;) I'm already getting stared at oddly enough for
this project.

Anyone got any pointers?

Thanks.

Cheers,
David

You are currently subscribed to hfsig as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: Decimation filter for PSK31

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Mon, 23 Sep 2002 12:44:08 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100105-2002.09.23-12.25.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>   Good references:
>
> 1) "Digital Signal Processing in Communication Systems", Marvin E.
> Frerking, pg 199. ISBN 0-442-01616-6   (my all-time favorite DSP book).
>
> 2) "An Economical Class of Digital Filters for Decimation and
> Interpolation",
> Hogenauer, H. B., IEEE Transactions on Acoustics, Speech, and Signal
> Processing, vol. ASSP-29, number 2, April 1981
>
>   -- Tom, N5EG

Yes, this looks like what I'm going for! ;) Since the decimation ratio
is a nice power of two, these should work well--might even get to cascade
the same filters--which would save code/data space. I will do some

looking and some reading.

Thanks!

Cheers,
David

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] RE: Decimation filter for PSK31 <LYR27905-100023-2002.09.22-23.28.44--rwmcgwier#comcast.net@lists.tapr.org>

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Mon, 23 Sep 2002 12:49:19 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100107-2002.09.23-12.30.49--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> In its simplest form, a decimation filter is nothing more than
> a low pass filter. In your case, this filter will need to have
> a cut off below the Nyquist rate (1/2 the final sample rate) in
> order to cut off all the stuff that would be aliased into the
> new band.   If your final signal has as its sample rate 62.5 Hz,
> then its Nyquist frequency is 31.25 Hz.
>
> So design a lowpass filter and then simple decimate by 16 and you
> are there (1000/16 = 62.5). The lowpass filter needs to have a
> zero at or very near 31.25 Hz to eliminate significant aliasing.
>
> Your request leaves me with the feeling that we should ask more
> question. What problem are you trying to do that would require
> a 1000Hz sample rate in the beginning and then be decimated
> by a factor of 16 or 32?

Ask away, let's keep this socratic. :)

Well, I want to take the output of a normal SSB radio and use that
as the input of my little decoder. 1KHz was possibly arbitrary,
but 500Hz is the practical lower limit and 2KHz is too high (want
to keep the decimaiton a power of two, right?) If there were a
simple way to some of the processing externally, I'd be game for
that. I can DDS up a tuning frequency (quadrature, if necessary)
from the micro if that will simplify things.

At this stage, I'm just writing on a napkin to see if this project
fits in the realm of the 'doable'. From the basic math, it
does seem to be possible--just not easy. :) But, what would be the
fun in that? ;)

Any suggestions on a simple way to receive PSK31 outside of what
I'm outliked is entirely welcomed. I'm not stuck on any block
diagram at this point. Blank slate. I'm just stuck with a little
micro and a simple A/D.

Cheers,
David N0YVM

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: [hfsig]Decimation filter for PSK31

From: "Moe Wheatley" <ae4jy@bellsouth.net>
Date: Mon, 23 Sep 2002 13:25:00 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100109-2002.09.23-13.06.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

David,
Graeme Zimmer,VK3GJZ has done a lot of work with PICs and PSK31. I don't see
anything on his web site now but maybe its somewhere else.
I think you will quickly hit the limits of a PIC trying to do much with dsp
filters since most do not even have a multiply instruction. It think Graeme
used an external bandpass filter in front of the PIC so it only had to do the
final demod and data decoding.

http://www.users.bigpond.com/gzimmer/

Moe,ae4jy

>
> Ask away, let's keep this socratic. :)
>
> Well, I want to take the output of a normal SSB radio and use that
> as the input of my little decoder. 1KHz was possibly arbitrary,
> but 500Hz is the practical lower limit and 2KHz is too high (want
> to keep the decimaiton a power of two, right?) If there were a
> simple way to some of the processing externally, I'd be game for
> that. I can DDS up a tuning frequency (quadrature, if necessary)
> from the micro if that will simplify things.
>
> At this stage, I'm just writing on a napkin to see if this project
> fits in the realm of the 'doable'. From the basic math, it
> does seem to be possible--just not easy. :) But, what would be the
> fun in that? ;)
>
> Any suggestions on a simple way to receive PSK31 outside of what
> I'm outliked is entirely welcomed. I'm not stuck on any block
> diagram at this point. Blank slate. I'm just stuck with a little
> micro and a simple A/D.
>
> Cheers,
> David N0YVM
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: [hfsig]Decimation filter for PSK31

From: Johan Forrer <forrerj@suki.oregon-hw-sw.com>
Date: Mon, 23 Sep 2002 11:12:05 +0000 (UTC)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100112-2002.09.23-13.33.56--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

David,

Not sure if this may help ...

I've seen Greame, Detlef Rhode, and others use the Alesis chipset
(http://www.alesis-semi.com/index.html) for DSP filtering projects.
Apparently with good success. Chipset is somewhat restrictive compared to
what you can do with a full-blown DSP, but perhaps with a bit of ingenuity
one can build useful projects around these.

Have a look at the AL3201/2.

73

Johan, KC7WW
http://www.oregon-hw-sw.com

 On Mon, 23 Sep 2002, Moe Wheatley wrote:

> David,
> Graeme Zimmer,VK3GJZ has done a lot of work with PICs and PSK31. I don't see
> anything on his web site now but maybe its somewhere else.
> I think you will quickly hit the limits of a PIC trying to do much with dsp
> filters since most do not even have a multiply instruction. It think Graeme
> used an external bandpass filter in front of the PIC so it only had to do the
> final demod and data decoding.
>
> http://www.users.bigpond.com/gzimmer/
>
> Moe,ae4jy
>
> >
> > Ask away, let's keep this socratic. :)
> >

> > Well, I want to take the output of a normal SSB radio and use that
> > as the input of my little decoder. 1KHz was possibly arbitrary,
> > but 500Hz is the practical lower limit and 2KHz is too high (want
> > to keep the decimaiton a power of two, right?) If there were a
> > simple way to some of the processing externally, I'd be game for
> > that. I can DDS up a tuning frequency (quadrature, if necessary)
> > from the micro if that will simplify things.
> >
> > At this stage, I'm just writing on a napkin to see if this project
> > fits in the realm of the 'doable'. From the basic math, it
> > does seem to be possible--just not easy. :) But, what would be the
> > fun in that? ;)
> >
> > Any suggestions on a simple way to receive PSK31 outside of what
> > I'm outliked is entirely welcomed. I'm not stuck on any block
> > diagram at this point. Blank slate. I'm just stuck with a little
> > micro and a simple A/D.
> >
> > Cheers,
> > David N0YVM
> >
>
>
>
> ---
> You are currently subscribed to hfsig as: forrerj@oregon-hw-sw.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: [hfsig]Decimation filter for PSK31

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Mon, 23 Sep 2002 14:09:50 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100114-2002.09.23-13.51.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> David,
> Graeme Zimmer,VK3GJZ has done a lot of work with PICs and PSK31. I don't see
> anything on his web site now but maybe its somewhere else.
> I think you will quickly hit the limits of a PIC trying to do much with dsp
> filters since most do not even have a multiply instruction. It think Graeme
> used an external bandpass filter in front of the PIC so it only had to do the
> final demod and data decoding.
>
> http://www.users.bigpond.com/gzimmer/
>
> Moe,ae4jy

Owww, very cool. My micro is a bit faster than a PIC, so I might just have
room for the filtering, too. Wonderful. Thanks. :)

Sorry, all, for the secrecy. It's just temporary--you know, showmanship--and
all will be revealed in the end. Code, schematics, etc. all free, like
it should be.

Cheers,
David

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: [hfsig]Decimation filter for PSK31

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Mon, 23 Sep 2002 14:12:46 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-100115-2002.09.23-13.54.17--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Not sure if this may help ...
>
> I've seen Greame, Detlef Rhode, and others use the Alesis chipset
> (http://www.alesis-semi.com/index.html) for DSP filtering projects.
> Apparently with good success. Chipset is somewhat restrictive compared to

> what you can do with a full-blown DSP, but perhaps with a bit of ingenuity
> one can build useful projects around these.
>
> Have a look at the AL3201/2.

Thanks, I will. I can make multiplies of any reasonable size. Considering
that the input samples will, likely, be 8 bit. I think that nothing more
than 16 bit will be required for the intermediate calculations. The nice
thing about synthasizing the math by hand is that I can tailor the precision
exactly. No arbitrary 8/16/24/32 bit stuff. Need a 10 bit here and a 12
bit there? No problem. :)

8x8 (bias signed) multiply takes 32 clocks. Scale up from there.

Thanks, Johan. I knew you would chime in. :)

Cheers,
David N0YMV

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

October 2002

Original source file: hfsig.0210
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0210

1. [hfsig] Write

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Wed, 02 Oct 2002 18:41:05 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-101406-2002.10.02-18.25.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR members:

Here is your chance to become rich and famous! Well, maybe not rich, but
certainly famous.

The editorial board of Packet Status Register (PSR, TAPR□s quarterly
newsletter) is now soliciting articles, news items, etc. for the next issue
of the newsletter. Topics related to digital Amateur Radio will be given
preference and the editorial board reserves the right to determine what is
suitable for publication.

E-mail your contributions to wa1lou@tapr.org ASAP because the deadline for
the next issue of the newsletter is October 24.

73,

Stan Horzepa, WA1LOU, PSR Editor

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Psk31 Homepage on IPv6

From: Eduardo Jacob <jtpjatae@bi.ehu.es>
Date: Fri, 25 Oct 2002 17:13:24 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: dsp@tapr.org
Message-ID: <LYR4070-104420-2002.10.25-10.56.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is to tell you that I have put the PSK31 Homepage also in IPv6.

        If you don't know what IPv6 is don't worry, at this time it doesn't offer
you more that what you have. Also you will not be able (normally) to access it.

        http://www.ipv6.haizea.org/psk31.html

        I am getting to the Internet through a tunnel, so don't expect very good
performance, hopefully this can change in following weeks.

        If you work/play with IPv6 you can use this page to test your setup.

        Regards

        Eduardo/EA2BAJ

Eduardo Jacob - Area de Ingenieria Telematica
Departamento de Electronica y Telecomunicaciones
ETSII y de IT   Tel: +34 94 601 4214
UPV / EHU   Fax: +34 94 601 4259
Alda Urquijo s/n   E-mail: jtpjatae(arroba)bi.ehu.es
E-48013 - Bilbao (Spain)
PGP Key available: Send email w/subject: PGPKEY
fingerprint   : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

November 2002

Original source file: hfsig.0211
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0211

1. [hfsig] New Issue of Packet Status Register Available

From: John Ackermann N8UR <jra@febo.com>
Date: Tue, 05 Nov 2002 11:09:27 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-105710-2002.11.05-10.57.05--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Autumn 2002 issue of TAPR's journal, the _Packet_Status_Register_, is
now available online.

You can download it, and past issues of PSR, from http://www.tapr.org/psr
or via FTP from ftp.tapr.org/psr. The issue name is "Autumn_85_2002.pdf".

73,
John N8UR

John Ackermann   N8UR   jra@febo.com   http://www.febo.com
President, TAPR   n8ur@tapr.org   http://www.tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] [OT] Search for HP5328A Option 030 schematic

From: Alberto di Bene <dibene@usa.net>
Date: Sat, 16 Nov 2002 13:09:14 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-107308-2002.11.16-08.56.26--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry for the OT message, but I bought recently at an hamfest
an HP5328A counter, with the 010, 011, 021, 030, 040 options
and need some help.

The counter works ok, only the prescaler (Channel C, option 030
up to 512 MHz) refuses to do its duty.

I asked to a friend who has the 5328A service manual, but he told
me that his manual does not have the C channel schematic in it.

Does anybody have that schematic ? I will gladly pay the copying and
shipping expenses. I would like to try to fix that board.

Many thanks,

Alberto di Bene, I2PHD

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Watterson 's original paper

From: Малютин А.А. <malyutin@icmail.ru>
Date: Tue, 21 Nov 2000 21:15:14 +0300
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-108103-2002.11.21-13.03.07--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Who can sent me a copy of Watterson's original paper?
Thanks!
                          Malyutin A. A. malyutin@icmail.ru

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Call For papers, SWOH Digital Symposium

From: Hank Greeb <hgreeb@one.net>
Date: Fri, 22 Nov 2002 00:52:05 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-108201-2002.11.22-00.42.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Call for papers

Seventeenth Annual Southwest Ohio Digital Symposium
Saturday 11 January 2003 - 9:00 a.m. - 4:00 p.m.

The Seventeenth Annual Southwest Ohio Digital Symposium will be from 9 AM
to 4 PM EST, Saturday, January 11, 2003, in Thesken Hall, on the
Middletown Campus of Miami University, Middletown, Ohio. The time and
polace are scheduled, and preliminary program planning is underway.

What kind of digital modes are fascinating you these days? What new facet
(s) have you been trying? How about giving a demo and/or talk about these
at the Seventeenth Annual Southwest Ohio Digital Symposium on Saturday,
January 11, 2003? Send your ideas to Hank Greeb, n8xx@arrl.net

For more information on the symposium, please see

http://www.swohdigi.org/

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

December 2002

Original source file: hfsig.0212
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0212

1. [hfsig] Authors wanted for PSR and DCC.

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 13 Dec 2002 08:08:23 +1100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110800-2002.12.12-15.57.45--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day

TAPR have decided to introduce some changes to support those members of
TAPR who are putting time and energy into the various publications that
TAPR puts out each year.

Three Month Membership Extension for Packet Status Register (PSR)
Articles

--

>From the next issue of PSR, members who have articles published in the
PSR magazine will have their membership of TAPR extended by three
months. It is hoped that this will encourage members to write for the
magazine. The deadline for articles for the next issue of PSR is
mid-January. More information on submitting articles, and on obtaining
copies of the magazine can be found on
http://www.tapr.org/tapr/html/Fpsr.html

Six Month Membership Extension for Digital Communications Conference
(DCC) Articles

>From the 2003 DCC, planned for somewhere in the Eastern USA, TAPR will
be offering Six Month membership extensions for all members who have
papers published in the proceedings. Whilst we would dearly love all
authors of papers to attend the conference, we recognize that there are
reasons that members cannot attend the conference - so the requirement
is only on having your paper published. This is of course in addition
to the complimentary copy of the DCC proceedings that each author is
entitled to.

We are looking for papers on subject within the bounds of Digital
Communications, as it applies to Ham Radio, on all levels. All you need
is something to say. If you feel that you are unable to write a paper
because you do not have the time, or writing a paper is outside your
area of expertise, please contact me. I will attempt to find someone who
will be able to help you with getting the paper written.

More details on the conference itself will be made available early in
2003, along with a formal call for papers. Until then you can examine
the DCC area of the TAPR www site for details on past conferences by
looking at http://www.tapr.org/dcc/

International Membership Price Decrease

International members of TAPR will now only US$20/year for membership of
TAPR. This is a reduction of 20% bringing the membership for
international members into line with members based in North America.

Darryl VK2TDS
TAPR Board Member

Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Reed Solomon

From: Edson Pereira <edson@fe.xdsl.ne.jp>
Date: Fri, 13 Dec 2002 13:38:39 +0900 (JST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110853-2002.12.12-23.23.50--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am playing with simulation of a HF FSK modulation scheme using
concatenated Viterbi and Reed Solomon FEC codes and am having difficulties
in deriving the Galois Field generator polynomial. The code I want to use
is RS(255,251) over GF(2**8). Can someone point me to the right direction
on how to derive the primitive polynomial?

Thanks in advance,

-- Edson, n1vtn, 7n4ncl

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] RE: Reed Solomon <LYR27905-110853-2002.12.12-23.23.50--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Fri, 13 Dec 2002 07:22:41 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110883-2002.12.13-07.08.06--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.ka9q.net/code/fec/

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Edson Pereira
Sent: Thursday, December 12, 2002 11:39 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Reed Solomon

I am playing with simulation of a HF FSK modulation scheme using
concatenated Viterbi and Reed Solomon FEC codes and am having difficulties
in deriving the Galois Field generator polynomial. The code I want to use
is RS(255,251) over GF(2**8). Can someone point me to the right direction
on how to derive the primitive polynomial?

Thanks in advance,

-- Edson, n1vtn, 7n4ncl

You are currently subscribed to hfsig as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] RE: Reed Solomon <LYR27905-110853-2002.12.12-23.23.50--rwmcgwier#comcast.net@lists.tapr.org>

From: Edson Pereira <edson@fe.xdsl.ne.jp>
Date: Fri, 13 Dec 2002 21:38:10 +0900 (JST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110886-2002.12.13-07.23.20--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Robert,

I am acutally using Phil's RS codecs. What I'm trying to do is to
construct a code which does not have a generator polynomial in the set of
polymomials Phil has included in his package. There must a table of
polynomials somewhere. Matlab's digital comm toolbox has a function to

generate the polynomial, but since I don't have matlab (I'm using the open
source Octave)... The literature I have is not helping mich either.

73,

-- Edson

On Fri, 13 Dec 2002, Robert McGwier wrote:

> http://www.ka9q.net/code/fec/
>
> -----Original Message-----
> From: bounce-hfsig-27905@lists.tapr.org
> [mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Edson Pereira
> Sent: Thursday, December 12, 2002 11:39 PM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Reed Solomon
>
>
>
> I am playing with simulation of a HF FSK modulation scheme using
> concatenated Viterbi and Reed Solomon FEC codes and am having difficulties
> in deriving the Galois Field generator polynomial. The code I want to use
> is RS(255,251) over GF(2**8). Can someone point me to the right direction
> on how to derive the primitive polynomial?
>
> Thanks in advance,
>
> -- Edson, n1vtn, 7n4ncl
>
>
> ---
> You are currently subscribed to hfsig as: rwmcgwier@comcast.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
>
> ---
> You are currently subscribed to hfsig as: edson@fe.xdsl.ne.jp
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] RE: Reed Solomon <LYR27905-110853-2002.12.12-23.23.50--rwmcgwier#comcast.net@lists.tapr.org> <LYR27905-110886-2002.12.13-07.23.20--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Fri, 13 Dec 2002 08:56:02 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110894-2002.12.13-08.41.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Edson:

My apologies. I will attempt to get you some references.

Bob

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Edson Pereira
Sent: Friday, December 13, 2002 7:38 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: Reed Solomon
<LYR27905-110853-2002.12.12-23.23.50--rwmcgwier#comcast.net@lists.tapr.o
rg>

Hi Robert,

I am acutally using Phil's RS codecs. What I'm trying to do is to

construct a code which does not have a generator polynomial in the set of
polymomials Phil has included in his package. There must a table of
polynomials somewhere. Matlab's digital comm toolbox has a function to
generate the polynomial, but since I don't have matlab (I'm using the open
source Octave)... The literature I have is not helping mich either.

73,

-- Edson

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] RE: Reed Solomon

From: "Joseph B. Fitzgerald" <jfitzgerald@alum.WPI.EDU>
Date: Fri, 13 Dec 2002 11:27:54 -0500 (EST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110906-2002.12.13-11.13.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Edson,

I think you will find what you need here

http://itpp.sourceforge.net/galois_8cpp-source.html

-Joe KM1P

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] RE: Reed Solomon

From: Edson Pereira <edson@fe.xdsl.ne.jp>
Date: Sat, 14 Dec 2002 15:45:12 +0900 (JST)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-110985-2002.12.14-01.30.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Joe,

Thank you very much for the link. The code was very helpful. After some
tests I am now puzzled by what happens when the RS decoder fails. My
understanding is that if the decoder (KA9Q's in this case) cannot correct
the errors, it will return -1, otherwise it will return the number of
errors corrected.

>From the rs.3 man page:

       "The decode functions return a count of corrected symbols,
        or -1 if the block was uncorrectible."

The tests I am doing, however, indicates that there are cases when the
decoder cannot correct the errors and returns a value greater than 0. If
this behavior is correct, I will need to attach a CRC to make sure the
data block is valid. I was hoping that the RS decoder could do the
checking for me :-(

When I ran using the RS(15,11) codec, I got the following:

* All values in hex
* encoder initialization: rs_handle = init_rs_char(4, 0x13, 1, 1, 4);

Data block: 0 1 2 3 4 5 6 7 8 9 a 0 0 0 0
Data block with RS parity: 0 1 2 3 4 5 6 7 8 9 a c e 8 3
Some errors added: x   x   x x   x
Data block with RS parity: 0 1 0 3 f 5 f f 8 9 f c e 8 3
Decoder returned value: 2 (Bad)

Now I rerun with different errors:

Data block: 0 1 2 3 4 5 6 7 8 9 a 0 0 0 0
Data block with RS parity: 0 1 2 3 4 5 6 7 8 9 a c e 8 3
Some errors added: x   x   X x   x

```
Data block with RS parity: 0 1 0 3 f 5 0 f 8 9 f c e 8 3
Decoder returned value:    -1 (Good)

The only difference is that the value of the error in position 7 was
changed from 0xf to 0x0.

For sanity, I redid the tests by modifying Phil's EXERCISE() function in
exercise.c and changed the line:

    /* Test up to the error correction capacity of the code */
    for(errors=0;errors <= NROOTS/2;errors++){

to

    /* Test up to the error correction capacity of the code */
    for(errors=0;errors <= NROOTS/2+1;errors++){

I added one more error (NROOTS/2 + 1) to force the decoder to fail. It
does indeed fail, but the return values are also strange. Notice that
sometimes the decoder returns -1 and sometimes not, even though the errors
could not be corrected. The results are at the end of the message.

Either my interpretation or methodology for the tests is incorrect or
something is not right.

73,

-- Edson, pu1jte, n1vtn, 7n4ncl

------------------------------------------------------------
Testing (15,11) RS codec...(15,11): decoder says 2 errors, true number is
3
(15,11): decoder indicates error in location 0 without error
(15,11): decoder indicates error in location 1 without error
(15,11): uncorrected errors! output ^ input: 00 02 00 00 00 00 01 0c 08 00
00 00 06 00 00
(15,11): decoder says -1 errors, true number is 3
(15,11): uncorrected errors! output ^ input: 00 00 03 00 00 00 00 00 03 00
02 00 00 00 00
(15,11): decoder says 2 errors, true number is 3
(15,11): decoder indicates error in location 0 without error
(15,11): decoder indicates error in location 1 without error
(15,11): uncorrected errors! output ^ input: 0e 00 00 00 07 00 00 00 00 00
00 04 03 00 0b
(15,11): decoder says 2 errors, true number is 3
(15,11): decoder indicates error in location 0 without error
(15,11): decoder indicates error in location 1 without error
(15,11): uncorrected errors! output ^ input: 00 05 00 00 09 09 00 0c 00 0c
00 00 00 00 00
(15,11): decoder says -1 errors, true number is 3
(15,11): uncorrected errors! output ^ input: 00 00 06 00 00 00 00 0b 00 00
09 00 00 00 00
(15,11): decoder says -1 errors, true number is 3
(15,11): uncorrected errors! output ^ input: 00 00 00 00 00 00 0a 00 01 01
00 00 00 00 00
(15,11): decoder says -1 errors, true number is 3
(15,11): uncorrected errors! output ^ input: 08 00 04 00 00 00 00 00 00 00
00 0e 00 00 00
(15,11): decoder says 2 errors, true number is 3
(15,11): decoder indicates error in location 0 without error
(15,11): decoder indicates error in location 1 without error
(15,11): uncorrected errors! output ^ input: 00 06 00 00 00 00 07 00 01 00
00 07 00 00 01
(15,11): decoder says 1 errors, true number is 3
(15,11): decoder indicates error in location 0 without error
(15,11): uncorrected errors! output ^ input: 00 08 00 00 00 0a 00 00 00 0e
02 00 00 00 00
(15,11): decoder says -1 errors, true number is 3
(15,11): uncorrected errors! output ^ input: 00 00 00 00 00 00 04 0f 00 00
00 06 00 00 00
------------------------------------------------------------------



On Fri, 13 Dec 2002, Joseph B. Fitzgerald wrote:

> Edson,
>
> I think you will find what you need here
```

>
> http://itpp.sourceforge.net/galois_8cpp-source.html
>
> -Joe KM1P
>
>
> ---
> You are currently subscribed to hfsig as: edson@fe.xdsl.ne.jp
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: hfsig digest: December 14, 2002

From: Matt Ettus <matt@ettus.com>
Date: Sun, 15 Dec 2002 05:38:18 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-111102-2002.12.15-00.26.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR HF Special Interest Group digest <hfsig@lists.tapr.org> said:

> TAPR HF Special Interest Group Digest for Saturday, December 14, 2002.
>
> 1. RE: Reed Solomon

>   "The decode functions return a count of corrected symbols,
>   or -1 if the block was uncorrectible."
>
> The tests I am doing, however, indicates that there are cases when the
> decoder cannot correct the errors and returns a value greater than 0. If
> this behavior is correct, I will need to attach a CRC to make sure the
> data block is valid. I was hoping that the RS decoder could do the
> checking for me :-(

I believe that you said you were using a very high rate code (i.e. very few
parity bytes). When there are few parity bytes, you will have uncorrected
undetected errors. The more common codes with more parity bytes should never
have this happen.

Matt

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: hfsig digest: December 14, 2002

From: Phil Karn <karn@ka9q.net>
Date: Fri, 27 Dec 2002 13:24:37 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-112648-2002.12.27-16.10.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Matt Ettus wrote:

> I believe that you said you were using a very high rate code (i.e. very few
> parity bytes). When there are few parity bytes, you will have uncorrected
> undetected errors. The more common codes with more parity bytes should never
> have this happen.

Right. Every error control coding scheme defines a set of valid
"codewords" that is just a fraction of all possible channel messages. If
the set of valid codewords is very small compared to the set of all
possible messages, then it is often possible to correctly discern which
codeword was originally sent even when it has been corrupted in
transmission, and the received message does not exactly match a valid
codeword. The corrupted message, though not a valid codeword, will
usually be much "closer" to one particular codeword than to all the
others. This "closeness" is in the Hamming sense, i.e., the decoded
codeword will have more bits in common with the raw received message
than any other valid codeword.

That's what every FEC decoder does, or tries to do -- it finds the valid
codeword with the smallest Hamming distance from the received message.

Provided that many channel bit errors are less likely than a few bit errors (i.e., bit errors are random and the bit error probability is less than .5) this provably yields the message that was most likely to have been sent. This is referred to as "maximum likelihood" decoding, and it's the goal of every decoder designer to operate at this level of performance or to reach it as closely as possible.

But even the maximum likelihood answer is not necessarily the *correct* answer. It's just more *likely* to be the right one, given the available information, than all the other possible answers. Imagine a channel error pattern that turns one valid codeword A into another valid codeword, B. In this case, the decoder would quickly return codeword B and indicate no errors had to be corrected -- even though it's the wrong answer.

Although one codeword can be corrupted exactly into another, this is unlikely. It's much more likely that the received message is corrupted such that it lies closer to a different codeword than the one that was sent. In this case, the decoder will "correct" it incorrectly and give the wrong result.

Imagine a very large dartboard littered with many little points. These represent all the valid codewords in a code. Draw a little circle around each point, taking care that the circles never overlap. Each circle represents the set of all received messages that are closest to the valid codeword at the center of the circle than to any other codeword. Your job, as the decoder, is to figure out which codeword the dart thrower was trying to hit. If the dart lands within a circle, you assume that he was trying to hit the code word at the center of that circle. If the dart lands outside any circle, you declare a decoding failure and refuse to give an answer.

You could draw the circles very tiny so that many darts land outside any circle. In this case, you'd be very seldom wrong at calling the correct aim point, but you'd also declare a lot of decoding failures.

For any given code, there is always a tension between the ability to detect errors and the ability to correct them. The more agressively you correct errors, the greater the risk that you'll "correct" an error incorrectly, with no indication that you've done so. At the other extreme, you could configure your decoder to return an error unless the received message exactly matches a valid codeword. This would reduce the chances of an undetected error to a bare minimum, but it would pass up the chance to correct many errors successfully.

Because the decoder is only doing what it's supposed to do in each case, the only way around this is to pick and use your codes carefully. Use small, high rate codes only for error detection, not for error correction. Reed-Solomon codes are popular because it's easy to construct them with very large blocks where the set of valid codewords is infinitesmal compared to the set of all possible messages. I.e., it's possible to achieve a very high degree of error correction while still retaining a vanishingly small probability of an undetected, uncorrected error. But Reed-Solomon codes are no better, and are actually a little worse, than other codes when it comes to small blocks and high rates.

Phil

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

January 2003

Original source file: hfsig.0301
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0301

1. [hfsig] Get Published and Extend Your TAPR Membership!

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Fri, 03 Jan 2003 08:52:25 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-113444-2003.01.03-08.41.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR members:

The editorial board of Packet Status Register (PSR, the quarterly Newsletter
of TAPR) is now soliciting articles, news items, etc. for the next issue of
the newsletter. Topics related to digital Amateur Radio will be given
preference and the editorial board reserves the right to determine what is
suitable for publication.

As a bonus, if your contribution is published in PSR, your TAPR membership
will be extended by 3 months.

E-mail your contributions to wa1lou@tapr.org ASAP because the deadline for
the next issue of the newsletter is January 26.

73,

Stan Horzepa, WA1LOU, PSR Editor

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] PSR deadline coming soon!

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Sun, 19 Jan 2003 19:54:53 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-116147-2003.01.19-19.45.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just a reminder: If you are interested in submitting an article for TAPR's
newsletter, Packet Status Register, the deadline is the 26th, so send me
your input ASAP.

73,

Stan, WA1LOU, PSR Editor

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Fed Standard 1052 Appendix B

From: "Charles H. Brain" <g4guo@btinternet.com>
Date: Mon, 27 Jan 2003 10:50:52 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-117451-2003.01.27-05.34.34--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone know the current status of the 1052 Appendix B
data link protocol. It appears to have been replaced in
MIL-STD 188-110B by the Stanag 5066 protocol stack.

However it is still in FS-1052 http://www.its.bldrdoc.gov/fs-1052/

I wish they had put it on their site as a PDF file as well as HTML pages!

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Digital Voice Experiments

From: "JB F" <kc7ww@hotmail.com>
Date: Thu, 30 Jan 2003 11:48:38 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-118079-2003.01.30-14.36.33--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was wondering whether anyone has built/used the DRM 12kHz IF downconvertor
for use with Frauenhofer's digital radio software?

If you are not familiar with these developments, see a link at
http://www.hfcc.org/pro/ ... this is a tiny module that takes a 455kHz IF
and converts it down to a 12kHz baseband for use with a soundcard. The
Frauenhofer software implements a digital radio receiver including the DRM
signal decoding (which involves quite a few other voice and audio codecs,)
all in software, on a modest Windows-based PC. Of course, if you have a
radio that provides a 12kHz baseband output, you can use that with the FhG
software. I believe the FhG software is available at some $60 or so. I dont
have it yet.

73,

Johan, KC7WW

_____
Add photos to your messages with MSN 8. Get 2 months FREE*.
http://join.msn.com/?page=features/featuredemail

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: Digital Voice Experiments

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Thu, 30 Jan 2003 21:25:52 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Cc: fischerv@nt.tu-darmstadt.de
Message-ID: <LYR4070-118083-2003.01.30-15.04.24--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

JB F wrote:
>
> I was wondering whether anyone has built/used the DRM 12kHz IF downconvertor
> for use with Frauenhofer's digital radio software?
>
> If you are not familiar with these developments, see a link at
> http://www.hfcc.org/pro/ ... this is a tiny module that takes a 455kHz IF
> and converts it down to a 12kHz baseband for use with a soundcard. The
> Frauenhofer software implements a digital radio receiver including the DRM
> signal decoding (which involves quite a few other voice and audio codecs,)
> all in software, on a modest Windows-based PC. Of course, if you have a
> radio that provides a 12kHz baseband output, you can use that with the FhG
> software. I believe the FhG software is available at some $60 or so. I dont
> have it yet.

Of course there is an alternative:
http://www.tu-darmstadt.de/fb/et/uet/fguet/mitarbeiter/vf/DRM/DRM.html

This is the open-source DRM receiver we have developed over the last
months. It is
not yet released, but will soon be (currently the Linux sound interface
is not
working ok: sound recording under Linux sucks. OSS does not work at all,
Alsa in OSS emulation works ok, Alsa native does not work properly, Arts
does not work. Once
these issues are solved, we release it on Sourceforge). And once we have
released it we expect you all to test and improve it ;-)

73' Alexander
DL8AAU/AB0CF

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Re: Digital Voice Experiments

From: Tomi Manninen OH2BNS <tpm@prkele.tky.hut.fi>
Date: Fri, 31 Jan 2003 12:45:51 +0200 (EET)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-118205-2003.01.31-05.33.31--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 30 Jan 2003, Alexander Kurpiers wrote:

> Of course there is an alternative:
> http://www.tu-darmstadt.de/fb/et/uet/fguet/mitarbeiter/vf/DRM/DRM.html
>
> This is the open-source DRM receiver we have developed over the last
> months.

Excellent!

> It is
> not yet released, but will soon be (currently the Linux sound interface
> is not
> working ok: sound recording under Linux sucks. OSS does not work at all,
> Alsa in OSS emulation works ok, Alsa native does not work properly, Arts
> does not work. Once
> these issues are solved, we release it on Sourceforge). And once we have
> released it we expect you all to test and improve it ;-)

What exactly is the problem? Does the program need something special from
the sound support? Other than full duplex 48kHz sampling?

--
Tomi Manninen Internet: oh2bns@sral.fi
OH2BNS AX.25: oh2bns@oh2rbi.fin.eu
KP20ME04 Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

February 2003

Original source file: hfsig.0302
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0302

1. [hfsig] Re: Digital Voice Experiments

From: Anthony.N.Martin@marconiselenia.com
Date: Mon, 3 Feb 2003 14:30:27 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-118624-2003.02.03-09.18.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> This is the open-source DRM receiver we have developed over
> the last months.

Is that "open-source" as in copyleft code, or as in
commercial code with restrictions that has been shared...

Do you know of any patent issues associated with the
algorithms used in DRM-decoding? OK that wouldn't
affect individual experimenters, but might affect a
ham-kit or a linux distro.

Now there's an idea: a neat pocket DRM receiver would
be a great ham kit. What sort of DSP do you think it
would need? Could you use a quadrature digitiser
at the 1st IF (45MHz say) or must it be SSB downconverted
via triple-conversion?

Anyhow what's the availability of DRM broadcasts like
in practice; how useful is a DRM radio?

DRM stations could be useful for spotting DX openings
as they are digitally identifiable in seconds.

Ant M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Re: Digital Voice Experiments

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Mon, 03 Feb 2003 15:40:25 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-118627-2003.02.03-09.29.01--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony.N.Martin@marconiselenia.com wrote:
>
>>This is the open-source DRM receiver we have developed over
>>the last months.
>
>
> Is that "open-source" as in copyleft code, or as in
> commercial code with restrictions that has been shared...

That is code released under the GPL.

> Do you know of any patent issues associated with the
> algorithms used in DRM-decoding? OK that wouldn't
> affect individual experimenters, but might affect a
> ham-kit or a linux distro.

At least the MPEG4 AAC (by Via Licensing) is patented as is the SBR (by
Coding Technologies).
I don't have any details about DRM itself, and I don't really care...

> Now there's an idea: a neat pocket DRM receiver would
> be a great ham kit. What sort of DSP do you think it
> would need? Could you use a quadrature digitiser
> at the 1st IF (45MHz say) or must it be SSB downconverted
> via triple-conversion?

Sure. You need quite a fast DSP for the Viterbi and you need lots of
memory for the
deep interleaving. Perhaps a TI 'C55xx should do. Thinking of this, why
not use
the Palm Tungsten T, the OMAP1510 should maybe be fast enough.

>
> Anyhow what's the availability of DRM broadcasts like
> in practice; how useful is a DRM radio?

Only test transmissions in the moment...

73' Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Re: Digital Voice Experiments

From: Tomi Manninen <tpm@prkele.tky.hut.fi>
Date: Tue, 4 Feb 2003 00:12:11 +0200 (EET)
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-118668-2003.02.03-17.00.09--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 3 Feb 2003 Anthony.N.Martin@marconiselenia.com wrote:

> Now there's an idea: a neat pocket DRM receiver would
> be a great ham kit. What sort of DSP do you think it
> would need? Could you use a quadrature digitiser
> at the 1st IF (45MHz say) or must it be SSB downconverted
> via triple-conversion?

See

 http://www.drmrx.org/mods/Simple_fixed_channel_DRM-v2.pdf

Now that's a ham-kit ... :-)

Not really an answer to your question but anyway... ;)

--
Tomi Manninen   Internet: oh2bns@sral.fi
OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Re: Digital Voice Experiments

From: "JB F" <kc7ww@hotmail.com>
Date: Tue, 04 Feb 2003 08:53:03 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-118810-2003.02.04-11.40.52--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From: Tomi Manninen <tpm@prkele.tky.hut.fi>
>Reply-To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
>To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
>Subject: [hfsig] Re: Digital Voice Experiments
>Date: Tue, 4 Feb 2003 00:12:11 +0200 (EET)
>
>On Mon, 3 Feb 2003 Anthony.N.Martin@marconiselenia.com wrote:
>
> > Now there's an idea: a neat pocket DRM receiver would

> > be a great ham kit. What sort of DSP do you think it
> > would need? Could you use a quadrature digitiser
> > at the 1st IF (45MHz say) or must it be SSB downconverted
> > via triple-conversion?
>
>See
>
> http://www.drmrx.org/mods/Simple_fixed_channel_DRM-v2.pdf
>
>Now that's a ham-kit ... :-)
>
>Not really an answer to your question but anyway... ;)
>
>--
>Tomi Manninen   Internet: oh2bns@sral.fi
>OH2BNS   AX.25:   oh2bns@oh2rbi.fin.eu
>KP20ME04   Amprnet: oh2bns@oh2rbi.ampr.org
>
>
>---

I'm also interested in such hardware, though am curious about the system
used for the ARRL digital voice experiments (Thales/Ten-Tec). That, I
believe from the materials on TAPR's web page, is an adaptation of the DRM
format. Basically a stripped-down version that fits into 3kHz, though I dont
have much details on what part of DRM was retained or dropped for this
demonstration --- there are not much technical detail to go by.

If the Thales/Ten-Tec digital voice uses all those proprietory CODEC and
compression algorithms (regardless of how well that works,) I wonder whether
it ever will be possible to get around all the legal issues for an open
source, ham development effort?

I have been working at porting the G4GUO 56K digital voice modem over to
Linux (sound card) and already have a preliminary working version, though
not ready for serious use, but at least enough to educate oneself of some of
the issues involved. Perhaps with some refinements and ideas from the DRM
system, I dont see why one could expand on G4GUO's idea of using the AMBE
chip with such a system. That, at least gets around the legal issues and may
have the potential to produce an open source version.

Experimentation is great for developing and proving technology, though I am
a little concerned about a bunch of different standards developing to add to
the already-confusing digital radio broadcasting. On the other hand, isnt
that what ham radio is all about?

73,

Johan, KC7WW

_____
The new MSN 8: smart spam protection and 2 months FREE*
http://join.msn.com/?page=features/junkmail

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] Re: Digital Voice Experiments

From: Anthony.N.Martin@marconiselenia.com
Date: Wed, 5 Feb 2003 10:42:11 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-119006-2003.02.05-05.29.58--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> http://www.drmrx.org/mods/Simple_fixed_channel_DRM-v2.pdf

> Now that's a ham-kit ... :-)

I'm actually quite impressed with that circuit... there are
few people who can actually do discrete transistor RF design

these days. People need a circuit and pick up the IC databook.

I was thinking of a single-board radio with a synth chip,
single-conversion to 45MHz or 70MHz IF, IF AGC amp,
quadrature digitiser, DSP, codec, PA and speaker. That's
approx. 6 chips and some discrete circuits.

Some kind of LCD display and up-down buttons would be
needed to select channel. 3V-only design to run off
2 AA cells. To make it any use as a portable, supply
current would be a critical design consideration.
Target 100mA.

ie. it would be a proper portable radio people would use.

Perhaps even sell the reference design to manufacturers.

==

I hadn't realised that Palm Tungsten had a DSP in it.
I looked at it and thought it was neat that it had
802.11 & bluetooth built-in as standard. I wouldn't
mind owning one.

The battery life of these palmtops is very short
(a few hours) and I wouldn't use one as a radio.
If you ran the battery flat you would loose all
your data.

Actually designing a tuner in say CF-card form-factor
would be much more difficult; The size isn't a problem,
it's just that you'd need an ASIC to do the PCMCIA/ATA
interface.

Ant

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] Winter 2003 Packet Status Register Available

From: John Ackermann N8UR <jra@febo.com>
Date: Wed, 05 Feb 2003 11:56:10 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-119060-2003.02.05-11.45.40--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Winter, 2003 issue of TAPR's journal, The Packet Status Register, is
available online at http://www.tapr.org/PSR.

Its contents include:

* New 802.11 E-List
* TAPR Project Policy
* OneTech ¹02 Technical Symposium
* Book Review: 802.11 Wireless Networks
* 3D Environments and Mars: A Follow-up from the 2002 DCC
* Extending Icom OPC-581 Extension Cables for Icom IC-706s
* Digital Radio Mondiale and Amateur Radio Implications
* 2003 in Connecticut

Enjoy!

73,
John

John Ackermann   N8UR   jra@febo.com   http://www.febo.com
President, TAPR   n8ur@tapr.org   http://www.tapr.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] Re: Digital Voice Experiments

From: Anthony.N.Martin@marconiselenia.com
Date: Wed, 5 Feb 2003 19:30:47 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-119103-2003.02.05-14.18.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I'm also interested in such hardware, though am curious about the system
> used for the ARRL digital voice experiments (Thales/Ten-Tec). That, I
> believe from the materials on TAPR's web page, is an adaptation of the
DRM
> format. Basically a stripped-down version that fits into 3kHz, though I
dont
> have much details on what part of DRM was retained or dropped for this
> demonstration --- there are not much technical detail to go by.

Digitised voice over HF isn't new at all. At Marconi we have
been doing it for 15 years or more, for the purposes of
military encryption. I re-engineered the system once myself about
5 years ago, and it's now built-in to our standard HF portable
radio. As it's a standard method of securing voice comms,
most military radio suppliers have boxes that do it.

Although we may field test HF equipment on amateur bands, using
amateurs in the company, we would not consider using digital
voice modes &/or frequency hopping as use of codes isn't allowed
on air.

Unless decoders are readily available to others it quite
definitely does obscure the meaning! I'm not quite sure what
Thales/Ten-tec are up to with this press release.

Thales are composed of Racal in the UK and Thompson of France,
both military suppliers. They should have plenty of experience
of HF digital voice. Racal was part of the failed Archer
consortium, which was contracted to deliver an HF radio system
with encrypted digital voice to the UK army.

It could certainly be a first for an MPEG-4 HF QSO. Live use
of MPEG-4 & the DRM modem is where the ground-breaking work
lies, and demonstrating it really does work across the
atlantic. You can spend lots of time testing these things on
channel simulators, but it feels much better knowing it
works in real life.

What has changed is this:

The voice compression technology has not existed before
that would be considered an audio quality enhancement.

Previously low bit-rate digital audio on HF was considered
a tolerable degradation in intelligibility.

ie. for the first time we can make HF sound better,
rather than worse.

It's not perfect by any means - the deep interleave
needed to fix fading adds severe delay that is hard
for users of a 2-way link to cope with, and no good
if they're in a hurry.

> If the Thales/Ten-Tec digital voice uses all those proprietory CODEC and
> compression algorithms (regardless of how well that works,) I wonder
whether
> it ever will be possible to get around all the legal issues for an open
> source, ham development effort?

Reference sourcecode is readily available from the standards
bodies for much of it - I've got the code for the MPEG4 codecs.
So none of it is proprietary - the implementation work is
theirs and they have done some hacks to reduce the bandwidth
which they have explained in the papers.

The licensing issue has been sorted out for MPEG4 now -
royalties to sell an MPEG4 codec is a trivial amount of money.

Don't know about the DRM modulation format, FEC etc,
but it seems to be composed of already well-established
components like OFDM, viterbi, etc. Qualcomm may hold some
patents on viterbi, IIRC he worked for them.

There is nothing to stop development of an "open-source"
digital-QSO software based on this standard. It could
even be GPL, but not necessarily free from restrictions
for commercial use. Patents don't stop you writing sourcecode,
building experimental systems, and sharing it between
like-minded researchers.

Software & algorithms are not patentable in itself. Sourcecode
is not functional; it is merely descriptive of a system
you may choose to build, given the right tools and materials.
It is like a drawing of a building, or a book, which may have
copyright. Patents apply to creating functional systems
which can perform the algorithm on real-world signals, and
requires physical hardware. Selling systems infringes patent.
Patent is intended to control commercial exploitation and
does not stop scientific research, education or personal
experiments.

That's the situation in UK/Europe AFAIR the last lecture from
our patents department.

IANAL.

There are no doubt a hundred university departments are
working on or testing the MPEG-4 code and trying it in
various systems, and no-one takes any notice. If you
commercialise a product, someone will start asking for
money.

Amateur licenses specifically facilitate education and
experiment and exclude commercial use, so amateurs who
implement systems by loading software on a PC would be
on pretty solid ground as fellow researchers in the art.

In the case of Fraunhoffer, they started getting upset
when freeware impacted the sales of their own MPEG
encoder product. In theory they can't do a lot, but
"bully-boy" tactics are effective - threatening to
sue programmers and their ISPs had the desired effect.
Legal defence is expensive; your average hobbyist can't
afford it and the ISP would rather boot your account.

I don't think Guglielmo Marconi or his contemporaries
ever persued amateurs, radio constructor's magazines,
or hobbyist kit suppliers over radio patents, although
they persued commercial companies vigourously.

> I dont see why one could expand on G4GUO's idea of using the AMBE
> chip with such a system. That, at least gets around the legal issues and
may
> have the potential to produce an open source version.

The AMBE(R) codec is proprietary.

To ship an open-source or shareware version would
involve legal/patent issues. DVSI inc keep it a
secret and would almost certainly persue you!

The similar IMBE codec is used in Inmarsat standard B/M
ship earth telephones. At the time it was Pretty Damn
Good (TM). Worth paying for, given the astronomic
airtime costs of Inmarsat.

The details of the algorithm are not public and probably
can only be seen under NDA (non-disclosure agreement).

If we cannot publish the code such a coding would not
be allowed on ham licenses. It is not OK to say "buy
our chip" "buy our modem" or "buy our software" or
"sign our NDA". The Q-code, Morse and ASCII are only
allowed as they are openly published.

MPEG-4 is openly published.
AX-25 is openly published.
802.11 is openly published.
LPC-10, CELP & MELP are explained in journal papers and
the details are in readable free sourcecode. I know
because the freely available code for these is sitting
on my website.

AMBE is... ?

Using AMBE chips doesn't "get round" the problem;
it leaves you with a big one.

There's no problem with any of the other algorithms;
just AMBE.

Oh yes and the other unmentionable: Microsoft Media
7/8/9 streaming media .ASF files. It's thinly-veiled
MPEG-4 with a thick armour-plating of lawyers.

[I expect Charles G4GUO will tell me why my frontend
is totally misaligned here. Otherwise I'd better
apologise now for pouring cold solder on his PCB!]

> Experimentation is great for developing and proving technology, though I
am
> a little concerned about a bunch of different standards developing to add
to
> the already-confusing digital radio broadcasting.

Digital radio broadcasting isn't that confusing. We have the
digital equivalent of FM (DAB eureka 147), and the digital
equivalent of AM (DRM MPEG-4). Maybe the FCC has allowed
it to become a mess in the USA.

The confusion is not being able to buy any radios.
Even a quality hi-fi system still comes with analogue.
It's no good telling the public "analogue is dead - long
live digital" when that's not what they see in the shop.
No wonder they're confused!

DRM needs to change its name - "DRM" stands for Microsoft
"Digital Rights Managment" which people will love to hate.

What's more confusing is that most people have better
access to digital audio broadcast through the internet
or digital cable/terrestrial TV boxes. And I expect
most people don't use it, because it's not portable.
I listen to most radio when I'm in my car.

> On the other hand, isnt that what ham radio is all about?

The problem is that such systems are becoming orders of
magnitude more complex, and beyond the skills and time
available to amateurs.

When AM was the norm, building sets was popular.

When hams switched to SSB, development shifted to
commercial manufacturers that supplied the hams.
Scope (& desire) for experiment dropped.

When we switch to digital, it's likely that only
high-volume ham-radio manufacturers can afford to
develop the radios. Scope to alter the algorithms
will be zero.

If we do not want large suppliers like Ten-tec and
Icom to fix competitive proprietary digital voice
standards, amateurs have got to come up with something
and, if necessary, push it through a standards and
regulatory track. There are only a few dozen amateurs
on the planet interested and capable of doing this
kind of task. We're probably it, guys!

Part of the problem is that most amateur project
design is one-man effort. To build something with
RF, a processor and software on a PCB needs a
minimum 3-man team effort. One reason why I think
a "ham-radio sourceforge" would be a great idea.

What I'd like to see is a radio with a programmable
back-end. You could use a "Ptolemy"-like system
where you wire up blocks on-screen representing
filters, demodulators and codecs and the code
is compiled and downloaded to the radio. The
system can be simulated and probed allowing people
to understand what signals are doing. They could
experiment easily at a level they could understand,
without lots of time spent coding. Models could be
sent between users over the air or over the internet,
so people could adjust their modem algorithms over
a live channel. They could easily run more than one
demodulator at once to see which version gave the
least errors, the best audio, etc

ie. the "Lego Mindstorms" of ham-radio.

The "missing pieces" at the moment are efficient
Java compilers for DSPs, a portable DSP I/O library
standard, and affordable software-definable radio
(SDR) hardware. Ptolemy, it's DSP component library,
simulation and VHDL/java code-generation capability
and XML web-publishing exists:-)

There's some arguament that most of this could be
done by host-processing and a USB RF module.
GCC has a free native java compiler for x86.
Hmm, perhaps that's something that could now
be persued.

I supose a true open-architecture SDR transmitter
would be a type-approvals nightmare, as it would
be a license for bad end-user code to write all
over the spectrum.

Ant M1FDE

AMBE(R) and AMBE-1000(TM) are trandmarks of DVSI inc.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: Digital Voice Experiments

From: "Charles H. Brain" <chbrain@btinternet.com>
Date: Wed, 5 Feb 2003 20:29:27 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-119106-2003.02.05-15.12.53--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> [I expect Charles G4GUO will tell me why my frontend
> is totally misaligned here. Otherwise I'd better
> apologise now for pouring cold solder on his PCB!]

My ears are burning. The DVSI patents describe their coding
scheme in some detail including the FEC they use so there is
nothing secret about it, you just have to look for it.

I am not a proponent of HF digital voice anyway just someone that has
experimented with it and that was 5 years ago. I have moved on.
It doesn't make for snappy QSOs anyway.

I do like your idea of an open source digital radio I could really
do with one of those. I have too many other projects on the go
and I never was much use as an RF engineer, that is why I write
dodgy software instead.

I believe in the U.S they can patent algorithms and it looks like Europe
maybe going that way too unfortunately. I watch the discussions on
Slashdot, that is my sole source of information.

Changing the subject. I see the RSGB have a home construction
competition, the prize for the winner is.... you guessed it a Black Box
Radio. I ask you! That is a competition I certainly won't be entering.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: Digital Voice Experiments <LYR27905-119106-2003.02.05-15.12.53--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Wed, 05 Feb 2003 16:11:09 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-119124-2003.02.05-15.59.30--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You better believe that in the US algorithms are patented otherwise
Harris Radio could never have gotten away with the simple linear
equation solving equalizer. It is absolutely appalling to me
what the patent office will grant and why it took years to find
something that would compete with it to which the patent did not
apply.

Bob, N4HY

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Charles H. Brain
Sent: Wednesday, February 05, 2003 3:29 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: Digital Voice Experiments

> [I expect Charles G4GUO will tell me why my frontend
> is totally misaligned here. Otherwise I'd better
> apologise now for pouring cold solder on his PCB!]

My ears are burning. The DVSI patents describe their coding
scheme in some detail including the FEC they use so there is
nothing secret about it, you just have to look for it.

I am not a proponent of HF digital voice anyway just someone that has
experimented with it and that was 5 years ago. I have moved on.
It doesn't make for snappy QSOs anyway.

I do like your idea of an open source digital radio I could really
do with one of those. I have too many other projects on the go
and I never was much use as an RF engineer, that is why I write
dodgy software instead.

I believe in the U.S they can patent algorithms and it looks like Europe
maybe going that way too unfortunately. I watch the discussions on
Slashdot, that is my sole source of information.

Changing the subject. I see the RSGB have a home construction
competition, the prize for the winner is.... you guessed it a Black Box
Radio. I ask you! That is a competition I certainly won't be entering.

- Charles

You are currently subscribed to hfsig as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] Re: Digital Voice Experiments

From: Anthony.N.Martin@marconiselenia.com
Date: Mon, 10 Feb 2003 15:53:34 +0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-119917-2003.02.10-10.41.57--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> My ears are burning. The DVSI patents describe their coding
> scheme in some detail including the FEC they use so there is
> nothing secret about it, you just have to look for it.

Thanks.

Care to hazard a URL? Or references to papers?

Might be interesting bedtime reading.

The contents of patents are public disclosures and
aren't subject to copyright so you're free to reproduce
the contents; to document the algorithm on a website etc.
Just not free to manufacture the invention.

> I do like your idea of an open source digital radio I could really
> do with one of those. I have too many other projects on the go
> and I never was much use as an RF engineer, that is why I write
> dodgy software instead.

I'm some use as an RF engineer, I is one. About
35,000 radios says I can get something right.

I always seem to have problems with software, and it's so
hard to avoid. I used to like doing it but the fun seems
to have gone out of it these days. Programming computers
seems to have got very difficult. Making things with any
half-decent CPU has also got difficult.

OTOH, I did write a program for an 8051 gadget the
other week in about an hour and it worked first time.
...I didn't realise at the time that the 7805 voltage
regulator was in backwards and it was running on 10V.
It didn't run on 10V forever.

Those Cygnal micros are interesting though. Heaven
knows why anyone would choose an 8051 for DSP though.
8x8 multiply, 4 cycles... although they clock 25 - 100MHz.

Are you interested in doing any digital radio projects
then Charles? It's a long time since I saw you last,
we'll have to arrange an RV.

> I believe in the U.S they can patent algorithms and it looks like Europe
> maybe going that way too unfortunately. I watch the discussions on
> Slashdot, that is my sole source of information.

I think this is the case too.

In Europe you can effectively patent algorithms via the
back door.

ie. you patent a system that implements the algorithm.

The algorithm must have real-world physical cause-and-effect
to be patentable.

ie. signal processing algorithms count. Radio signal goes in,
gets processed, sound comes out of speaker.

Databases, data-presentation and business-schemes are effectively
excluded from patent by these rules. Effect is only information or
financial. A business-scheme is an algorithm carried out by people,
rather than a machine.

Not sure about cryptography, I think that is patentable.

File formats and protocols are not patentable.

As you say, there is some pressure from the US for EU to
adopt their sloppy patenting algorithms! The USPTO is
generally poorly regarded over here so I hope they don't.

> Changing the subject. I see the RSGB have a home construction
> competition, the prize for the winner is.... you guessed it a Black Box
> Radio. I ask you! That is a competition I certainly won't be entering.

We should speak to somebody about such things.

Is is beacuse a certain supplier sponsors it?

Pity there is no prize money on offer for people
who design new projects, just those who make them.
Presumably they're supposed to be professionals
paid for by electronics mags.

M1FDE

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: Digital Voice Experiments

From: "Charles H. Brain" <chbrain@btinternet.com>
Date: Mon, 10 Feb 2003 16:20:05 -0000
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-119924-2003.02.10-11.03.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Ant,

> Care to hazard a URL? Or references to papers?
>

I recently had a clearout so I have lost all that stuff.
I found it by doing a search on the USPTO website.

N0ZGO pointed this site out to me
http://www.speex.org/

The vocoders on that are designed for VOIP
and not radio, i.e they are optimised for packet loss
rather than bit loss. I have not had a chance to look at
the code yet. But it might have some ideas I can use in
my experimental vocoder.

> Are you interested in doing any digital radio projects
> then Charles? It's a long time since I saw you last,
> we'll have to arrange an RV.

I am busy on an HF email system at present but maybe when I have
finished that. BTW I live in West Sussex now.

> Not sure about cryptography, I think that is patentable.

I noticed that RSA never bothered with EU patents why I
don't know.

> Is is beacuse a certain supplier sponsors it?

Yes.

- G4GUO

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] DRM released

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Thu, 13 Feb 2003 12:21:06 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-120358-2003.02.13-06.09.15--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

since yesterday the drm sources are officially released at
sourceforge.net
http://sourceforge.net/projects/drm/

The installation instructions and updated rpm's can be found at
http://www.tu-darmstadt.de/fb/et/uet/fguet/mitarbeiter/vf/DRM/installation.html

linked by the page
http://drm.sourceforge.net

73' Alexander

--
Alexander F. Kurpiers | Voice: +49-6151-162369
Institut fuer Nachrichtentechnik | Fax : +49-6151-165545
Merckstrasse 25 | EMail: a.kurpiers@nt.tu-darmstadt.de
D-64283 Darmstadt (Germany) | Hamradio: dl8aau@db0ais.#hes.deu.eu

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

March 2003

Original source file: hfsig.0303
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0303

1. [hfsig] TAPR Monthly Update

From: John Ackermann N8UR <jra@febo.com>
Date: Sun, 02 Mar 2003 18:40:34 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-122831-2003.03.02-18.32.48--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

(Sent on behalf of Darryl, VK2TDS, TAPR Membership Director -- mailto:
vk2tds@tapr.org)

People

TAPR Membership

Running TAPR takes resources, and as a non-profit organisation we rely
on members for part of our funding. If you support the work that TAPR is
doing, we would welcome your membership of the organisation. You can
join by clicking on http://www.tapr.org/tapr/html/orgf.html . We have
also been listening to members requesting that we support electronic
commerce. TAPR are currently testing the use of PayPal in association
with the current ordering system on the Web. We will post a message on
the WWW site as soon as this is available.

Until then you can still join. Just fill out the electronic form as
normal, and state in the comments that you want to pay with PayPal when
it is available.

Digital Communications Conference

This years DCC will take place at the Hartford/Windsor Marriott Airport
Hotel in Windsor, Connecticut, on the weekend of September 19-21, 2003.
The hotel is 6 miles south of Bradley International Airport (BDL) and 13
miles north of ARRL Headquarters in Newington. Information will soon be
available on http://www.tapr.org/tapr/html/conff.html. Until then you
can find more information in the PSR at
ftp://ftp.tapr.org/psr/Winter_86_2003.pdf

We will soon be issueing a call for papers for this event. Have a think
about what you want to write about and start planning your paper now. If
you are unable to come up with a subject, it is often possible to find
friends with something to write about, but who don't have the time. You
can help your friend and the Ham community by writing the paper on their
behalf. There will be two popular discussion points at the conference -
Software Defined Radios and 802.11 networks.

DCC Conference Proceedings

We have also reduced the price of each of the proceedings of the DCC up
until 1997 to only US$6 each. This makes the a real bargain. We are also
making available sets of volume 1-10 and 11-16 available for US33 each
- but please bear in mind that we no longer have copies of a number of
the proceedings so we cannot guarenttee that the sets will be complete.

Electronic Distribution of Packet Status Register (PSR) Magazine

Listening to members we have found that many people are concerned about
missing out on the PSR now that it has gone electronic. We recognise
this as an issue, and we have come up with a solution to make things a
bit easier in this digital age. We have created two mailing lists to
assist you with keeping up to date with the quarterly magazine. They are

        PSR-Announce
        PSR-PDF

PSR-Announce is designed to advise the availability of the PDF file for
download. We recognise that many people are on slow internet connections
at home, or in fact have to pay for their bandwidth. So we have created
a mailing list just to tell you when the magazine comes out, and to let
you know how to get it. You can subscribe by visiting

http://www.tapr.org/cgi-bin/lyris.pl?enter=psr-announce&text_mode=0

PSR-PDF is designed for people who have a faster internet connection, or who know that they will never get to read it unless it is sent directly to them. Since PSR often contains graphics, the file can be over one mByte. You can subscribe by clicking http://www.tapr.org/cgi-bin/lyris.pl?enter=psr-pdf&text_mode=0

802.11 Mailing List

Whilst we are on the subject of mailing list, TAPR have started a mailing list for 802.11 'Wireless Internet' operations. It seems that every community has a mailing list dedicated to 802.11. So how is the TAPR one different? It is dedicated to 802.11 use in ham radio. The list contains active members of the entire range of technical ability - from the most basic understanding of how radio works, to the deep internals of this equipment. Such a broad range that everyone is sure to fit in. You can join by visting http://www.tapr.org/cgi-bin/lyris.pl?enter=ham-80211&text_mode=0

GNUradio receives HDTV

Matt Etus and the other people at the GNUradio project have announced that they have managed to decode the HDTV data stream on their PC's and have published the source code online. This is an amazing feat by Matt and the team. They are not quite to the stage of real time HDTV decoding on a PC, but are close.

Write for PSR!!!

PSR needs articles, and we would love to publish lots more in the PSR magazine. PSR is a great place to publish articles on everything from local operating practices to deep technical papers. And since the last issue TAPR is now rewarding those people who are helping others by writing articles for the magazine. Following the last issue, six people had their memberships extended by three months. This is just a small thank you from us at TAPR to those people who help us out. More details on PSR can be found on www.tapr.org

Conclusion

I hope you have found this document informative and useful. TAPR is always looking for new things to do and how to improve what it is already doing. If you have any ideas or concerns, please email me on darryl@radio-active.net.au

Darryl

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Call For papers, 12th Annual ARRL Pacific Division Convention

From: Harry Styron <hlstyron@wcrklaw.com>
Date: Sat, 08 Mar 2003 10:29:28 -0800
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-123860-2003.03.08-13.18.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Call for papers PACIFICON 2003

Twelfth Annual ARRL Pacificon Division Convention
Friday, Saturday, Sunday, October 19-21, 2003 - 8:00 a.m. - 5:00 p.m.

Proposals for program presentations are now being accepted for the 12th Annual Pacific Division Meeting.

Programs in past years have included presentations on software defined radio, Amateur satellites, voice over internet, transmission line matching and the Smith chart, public service event management, Hiram Percy Maxim, contesting, and the ever popular day long Antenna Forum.

Send your proposals for programs to Harry Styron, Program Chair,
k6hs@arrl.net.

This year's Meeting is scheduled for the San Ramon Marriott Hotel, near
San Francisco, California. For more information see
http://www.pacificon.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Digital modes discussion website

From: David Willmore <davidwillmore@iamanidiot.com>
Date: Fri, 14 Mar 2003 06:59:13 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-124417-2003.03.14-06.48.36--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I thought this might interest people here. I just stumbled onto
a web site designed to support discussion of digital modulation
schemes--mostly amateur stuff. It's mostly empty, but that just
means that it's a good place to start discussion. :)

Here's the address:
http://www.digitalmodes.org

Cheers,
David N0YMV

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

April 2003

Original source file: hfsig.0304
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0304

1. [hfsig] publish or perish

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Tue, 01 Apr 2003 19:38:06 -0500
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-127133-2003.04.01-19.31.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here is your chance to become rich and famous! Well, maybe not rich, but
certainly famous.

The editorial board of Packet Status Register (PSR, TAPR□s quarterly
newsletter) is now soliciting articles, news items, etc. for the next issue
of the newsletter. Topics related to digital Amateur Radio will be given
preference and the editorial board reserves the right to determine what is
suitable for publication.

E-mail your contributions to wa1lou@tapr.org ASAP because the deadline for
the next issue of the newsletter is April 24.

Don't forget, if you are a TAPR member, you will add three months to your
TAPR membership for every article that is published in PSR.

73,

Stan Horzepa, WA1LOU, PSR Editor

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Digital BASH at Hamvention

From: John Ackermann N8UR <jra@febo.com>
Date: Fri, 11 Apr 2003 16:40:06 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-128252-2003.04.11-16.34.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Announcing the 2003 TAPR Digital BASH!

What?
        An event for the digitally-inclined ham, featuring:
        * Buffet dinner
        * Keynote Address: A Software Defined Radio for the Masses,
            by Gerald Youngblood, AC5OG
        * TAPR special interest group meetings
        * "Birds of a Feather" gatherings

When?
        Friday evening, May 16, 2003
        Doors open at 7:00 pm; dinner served at 7:30 pm
        Speaker and meetings after dinner

Where?
        Kohler's Banquet Center, 4548 Presidential Way, Kettering
        (39 40.75N, 84 08.43W), just south of East David Road between Far
        Hills Ave. and Wilmingon Pike. Maps available on the TAPR web site
        (http://www.tapr.org/tapr/dayton, follow the link at the bottom of the
page),
        or at the TAPR booth.

How?
        Dinner requires advance registration and payment through TAPR.
        Tickets will be available at the TAPR booth on Friday, though
        we strongly encourage registration <before> Hamvention. The
        cost is $25.00 per person, tax and tip included.

        All amateurs are welcome to attend, enjoy the speaker, and
        participate in the meetings, although only those purchasing a
        dinner can eat.

To register, contact:
        Digital BASH
        c/o TAPR
        8987-309 E. Tanque Verde Road #337
        Tucson, AZ   85749-9399
        Phone: 972-671-TAPR (8277)
        Fax: 972-671-8716
        Internet: tapr@tapr.org

        Visa/Mastercard Accepted

Who?
        PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet
        Radio, the national leader in digital communication -- and the
        Miami Valley FM Association, Dayton's packet radio club.

For more information (including maps), go to
http://www.tapr.org/tapr/dayton,
 or send email to tapr@tapr.org.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Packet Status Register deadline nears

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Mon, 21 Apr 2003 19:38:40 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-129451-2003.04.21-19.39.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The deadline for the next issue of Packet Status Register (PSR), TAPR's
quarterly newsletter, is Thursday, April 24, so please get your submissions
to me as quick as a bunny!

73,

Stan, WA1LOU

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

May 2003

Original source file: hfsig.0305
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/hfsig/mail_archive/hfsig.0305

1. [hfsig] Spring 2003 issue of Packet Status Register (PSR) now available

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Mon, 05 May 2003 20:00:28 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-131519-2003.05.05-19.54.39--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Spring 2003 issue of Packet Status Register (PSR), TAPR's quarterly
newsletter is now available at the TAPR web site (www.tapr.org).

This issue of PSR has the following contents:

802.11b Used in Ham's Shuttle Recovery Efforts by Doug Kilgore, KD5OUG

A New Tactical Reporting Protocol by Scott Miller, N1VG

Announcing N2YGK's Linux aprsdigi Version 2.4.3   3 by Alan
Crosswell, N2YGK

APRS IP Mobile in a Non-Dynamic Wireless Environment or 802.11 APRS by
Darryl Smith, VK2TDS

Portable Tactical Digital Communications Using Off-the-Shelf Consumer
Components by Ed Carp, N7EKG

President's Corner: Dayton, Directors and the DCC by John Ackermann, N8UR

Real Networking: Is It the Key to Keeping & Reviving Packet? by Ron Sauer,
K9RKI

Revitalizing "Plain" Packet by Jim Wagner, KA7EHK

TAPR and ARRL 22nd Annual Digital Communications Conference

TAPR Membership by Darryl Smith, VK2TDS

TAPR Order Form

WA8WDQ Replaces K0PFX on TAPR Board

Welcome to Jeannie, The House That Listens by Don Marquardt, K9SOA

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

2. [hfsig] Last Reminder: Hamvention Digital Bash!

From: "John R. Ackermann N8UR" <jra@febo.com>
Date: Tue, 13 May 2003 10:15:19 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-132600-2003.05.13-10.09.38--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just a reminder that the annual TAPR Digital BASH will be held Friday
evening at Hamvention. Our keynote speaker will be Gerald Youngblood,
AC5OG, who will describe -- and demonstrate -- his HF software defined
radio, the SDR-1000. I have been playing with the SDR-1000 myself, and it
is a real step forward for ham SDR experimentation. If you're at
Hamvention, you'll want to hear Gerald and see the radio in action.

Tickets are $25 and will be available at the TAPR booth up until about 3:45
Friday afternoon, when we have to call in the final count. Directions to
the banquet hall will also be available at the booth.

And, remember that TAPR will have a bigger and better presence at
Hamvention this year. Our new booth spaces are 607, 608, and 615, just a
little bit down and over from our old spot.

See you there!

73,
John N8UR

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

3. [hfsig] Idea on new digital mode.

From: David Willmore <willmore@optonline.net>
Date: Wed, 14 May 2003 14:02:58 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-132812-2003.05.14-13.55.22--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm working on an idea for a new digital mode to be used at HF and elsewhere
and I'd appreciate any comments (you're full of it, why didn't I think of it,
it'll never work, etc.) in either this forum or on the bbs.

The info is here:
http://www.digitalmodes.org/phpBB2/viewforum.php?f=1

The topic is entitled "New digital mode".

Cheers,
David

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

4. [hfsig] Call for Papers

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Tue, 20 May 2003 20:45:42 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-133569-2003.05.20-20.45.03--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Technical papers are solicited for presentation at the 22nd Annual ARRL and
TAPR Digital Communications Conference to be held September 19-21, 2003 in
Hartford, Connecticut, and publication in the Conference Proceedings. Annual
conference proceedings are published by the ARRL. Presentation at the
conference is not required for publication. Submission of papers are due by
August 5th, 2003 and should be submitted to:

Maty Weinberg, ARRL
225 Main Street
Newington, CT 06111

or via the Internet to
maty@arrl.org

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

5. [hfsig] MS-188-110-A1 and TCM development (long & involved)

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Thu, 29 May 2003 15:28:02 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-134833-2003.05.29-15.26.08--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is this group dead? I hope not. Hopefully
this will awaken you.

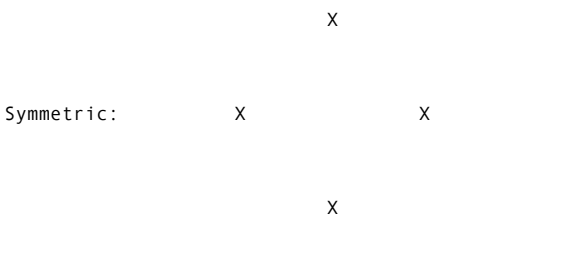
I have permission to release the MS-188-110-A1
development at long last. It is restrictive
permission. I will be able to release
.dll, .lib, .a, and .so and a console
executable and frankly it will
be crippled over what is possible. It will
have a standard off the shelf decision
feedback equalizer in it. When I gave
the DCC talk I had verbal permission all
the way up the food chain and email from
my immediate superior. Following the
talk, I was axed by manufacturers getting
to my masters to prevent this from being
released because the uncrippled version

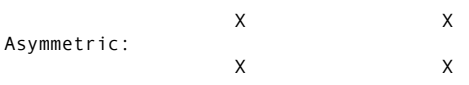
does and will outperform all manufacturers
versions because of the HMM technology
it contained. They allied themselves with
folks that never wanted to see this come
out in the first place. The final compromise is
one I hate but there is nothing I can do about it.
I think this technology is important to
hams, RACES/FEMA, and I am hoping that
Charles Brain and/or others will be able
to incorporate this in the HF-ALE and
get good enough performance that we can
do some real HF-ALE with follow on type work.
I have 3 tuitions and a mortgage to pay
and this battle is not one I am willing to
fight. I will soon bring everything up on
my personal web page which right now only
brings up the apache server until I am
satisfied with the web page from an
aesthetic point of view, as well as a
security point of view, because it is at home.
There will be a license that is unrestricted
for experimentation and everyone that downloads
will have to agree to the license online and
provide their ham radio call sign and address
(others will provide alternative ID). Again,
this is neither a thing I want and is only
barely tolerable to me at all. For commercial
purposes, there will be a different license that
I will not discuss here.

I will release the library for Linux soon
and the windows library shortly after my
next development (which is much more interesting
to me now and will have immediate impact
if it succeeds). I will release the Linux
executable that runs from the sound card
so people can experiment before I release
anything else. When this is ready, I will
post a note here with my web site address.

I have another development in the works. This
one comes with no restrictions ;-).

I was reading Simon, et. al. "Intro. to TCM
with Applications" looking for code/algorithms
to do TCM designs since I just could not find
any good information on how to do QPSK-TCM of
binary data. The only mention of any interest
was on "asymmetric constellations" and QPSK
was the first example. I didn't want to leave
symmetric QPSK on my first try so I allmmoosstt
moved on but I decided to look to see if any
analysis had been done to get an idea of what the
degradation of this trellis coded modulation
would be if I used a symmetric constellation.





In other words, the +/- 90 transitions
are much smaller. The constellation pts are
+/-phi &   180 +/- phi.

I decided at the last second to read on.

The authors do a complete analysis of optimization
of this with respect to phi. I then realized
that phi = pi/2 is a perfectly acceptable value!

Indeed, phi = pi/2 is not the worst case but
you can plug it into the formulae. It is
only 0.46 dB worse than the best case which
I won't go into because my interest in the
asymmetric case has disappeared! Lastly,
the improvement of the asymmetric over the
symmetric constellation only happens at Eb/N0
much higher than I feel we should have to
operate (BER's of 10^-4, since when have you
seen PSK31 go 10000 bits without an error). The
symmetric case on a Gaussian channel with an
8 state (constraint length 3) code driving QPSK
is 4.77 dB better than uncoded PSK. This is a
huge improvement over PSK. If my implementation
of this succeeds, I doubt anyone will ever use
QPSK31 again. QPSK31 loses because QPSK under performs
BPSK and the convolutional coder does not have
sufficient gain to make up for the bad models and
everything and QPSK31 is about a wash over BPSK31.
If my simulations are correct, this will not
be the case here. Even on a Rician and Rayleigh
fading channels that are not the worst but not
good either, I am getting at least 3dB improvement
over BPSK on all but the worst CCIR channels.

We can even move on to more traditional TCM's, the
ones that are in all the textbooks for circular
constellations and using dibits as the input,
and 8 PSK as the constellation, we should be
able to greatly exceed the performance of BPSK63
with the same data speed as BPSK63 but in half
the bandwidth and the 8-PSK with 4 states, so we
wait no more than (say) 1/3 second. We get 3
dB improvement over the raw QPSK which should
have about equal performance to the BPSK63. Seems
the lower bound on the improvement over BPSK63
is 3.6 dB (especially if you throw in a fading
channel and then half the bandwidth!). We could
easily use 8 states, BUT the reason for going
to BPSK63 was to increase speed with little
latency. I think we could live with (say)
8-12 symbol latency of the 4 state model
(these states are dibits so that is 16-24 data
bits or 1/2 second) and should relieve the
complaints of those RTTY folks who are claiming
that BPSK6 "switches too fast". The two statement
model, with 1/2 the latency only has 1 dB gain over
QPSK but we have not done all the work comparing
BPSK63 to this since we need to analyze the
doubling of the bandwidth and halving the
constellation size. The two state model might
be a "low latency high power mode".

As for the first model I described, TCM-QPSK, the
latency might be as long as 16-20 symbols but this is
not much different from the latency in the viterbi
decoder already in most implementations for
QPSK31 but this will get several dB improvement
over BPSK.

Finally, I have access to a popular .dll to
test the implementation of the TCM-QPSK. My
current plan is to make this the "QPSK31" in
this "substitute" .dll for people to play with.
You would put it in the directory with your
favorite PSK program and use this as the
replacement .dll and click on QPSK to get
the trellis coded mode.

Stay tuned.

Please comment on this before I waste lots of
time on this TCM work.

Bob

N4HY

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

6. [hfsig] RE: MS-188-110-A1 and TCM development (long & involved)

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Thu, 29 May 2003 12:51:54 -0700
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-134835-2003.05.29-15.44.46--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Bob!

> Is this group dead? I hope not. Hopefully
> this will awaken you.

Comatose and dead are, thankfully, different states on the constellation!

> ...Please comment on this before I waste
> lots of time on this TCM work.

You know me, I want to put it in something that doesn't require a Pentium.
An Analog Devices low-power DSP comes to mind :-)

Lyle, KK7P

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

7. [hfsig] RE: MS-188-110-A1 and TCM development (long & involved) <LYR27905-134835-2003.05.29-15.44.46--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Thu, 29 May 2003 17:30:52 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-134841-2003.05.29-17.26.41--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If you can get QPSK31 to run on 16 bit ADSP
device, this should run. I will be completely
releasing source for this at the development
level, unlike the Mil standard modem. The .dll
I mentioned as a useful test bed for the TCM
will not be released at this time.

Bob

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Lyle Johnson
Sent: Thursday, May 29, 2003 3:52 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: MS-188-110-A1 and TCM development (long & involved)

Hello Bob!

> Is this group dead? I hope not. Hopefully
> this will awaken you.

Comatose and dead are, thankfully, different states on the constellation!

> ...Please comment on this before I waste
> lots of time on this TCM work.

You know me, I want to put it in something that doesn't require a Pentium.
An Analog Devices low-power DSP comes to mind :-)

Lyle, KK7P

You are currently subscribed to hfsig as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

8. [hfsig] Re: MS-188-110-A1 and TCM development (not so long & involved)

From: "Charles H. Brain" <chbrain@btinternet.com>
Date: Fri, 30 May 2003 07:50:00 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-134898-2003.05.30-02.43.00--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Bob,

As my name was mentioned I guess I should comment on your email.

I am working on a new version of PC-ALE, the new version already
contains a DFE 110A modem and Appendix B datalink layer. It should
be pretty easy to drop in you modem as an alternative. I assume you need to
sample at 9600?

I hope to do some tests using 75 BPS and the datalink layer
operating in broadcast mode. This is to look at some ideas on
providing a robust data broadcast system. The robust modem uses
a simplified RAKE receiving technique to combine the multipath
components.

Currently I am adding alternative quick call to PC-ALE. Eventually
it will have a Mail Transfer Agent implemented so emails can be entered
using Outlook Express or the like.

O.K on the TCM modem, I started to implement an OFDM 8PSK modem
using TCM and full tail biting for digital voice. The results so far have not been
too successful. I also wanted to include sync on data as well, that is proving
more difficult. The worse the multipath the longer it takes to sync.

Unfortunately all this is on hold at the moment because I foolishly agreed to
design a GPS tracking device for someone that operates at 458 Mhz
(it seemed a good idea at the time).

- Charles
> Charles Brain and/or others will be able
> to incorporate this in the HF-ALE and
> get good enough performance that we can
> do some real HF-ALE with follow on type work.

> I was reading Simon, et. al. "Intro. to TCM

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

9. [hfsig] Re: MS-188-110-A1 and TCM development (not so long & involved) <LYR27905-134898-2003.05.30-02.43.00--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Fri, 30 May 2003 14:45:08 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-134987-2003.05.30-14.38.42--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

All of my code operates at 8 Khz for regular SSB radio work.
If you are supply 9.6, I can resample since the first thing
I do is approximately baseband and resampling to two samples
per baud so the modem is running at 4800 samples per second.
It would be simpler and faster to just do a decimation by
2 resampler (even though the code does not change). A well
designed equalizer, making full use of the known data (probes),
works like the rake. The difference is you in one you
spend ticks looking for the right places to drop your tap
and in the other you spend ticks dragging filter that has

more taps than the rake. I find it to be a wash. Again,
let me state for emphasis what I stated earlier. The
adaptive LMS DFE, Least Mean Square, on an HF channel,
has better tracking performance than the RLS. The RLS,
which is essentially a leaky Kalman filter, does indeed
converge very rapidly on a stationary channel. The LMS
in iterative forward backward mode, in my opinion, and in
my experience, outperforms, the RLS on a dynamic channel
such as HF.

I will be using AC5OG's software radio when I get to the
place I would like to implement 110B. I would love to
interoperate with you on the 75 bps mode. I cannot believe
how solid it is. Latency is the penalty you have to pay
however. I will let you know when I am ready to test if
you will do likewise.

Look forward to getting this stuff out and people complaining
about pieces of the implementation so we can get this all
working.

The TCM I am talking about is 31.25 baud!

Bob

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Charles H. Brain
Sent: Friday, May 30, 2003 2:50 AM
To: TAPR HF Special Interest Group
Subject: [hfsig] Re: MS-188-110-A1 and TCM development (not so long &
involved)

Hello Bob,

As my name was mentioned I guess I should comment on your email.

I am working on a new version of PC-ALE, the new version already
contains a DFE 110A modem and Appendix B datalink layer. It should
be pretty easy to drop in you modem as an alternative. I assume you need to
sample at 9600?

I hope to do some tests using 75 BPS and the datalink layer
operating in broadcast mode. This is to look at some ideas on
providing a robust data broadcast system. The robust modem uses
a simplified RAKE receiving technique to combine the multipath
components.

Currently I am adding alternative quick call to PC-ALE. Eventually
it will have a Mail Transfer Agent implemented so emails can be entered
using Outlook Express or the like.

O.K on the TCM modem, I started to implement an OFDM 8PSK modem
using TCM and full tail biting for digital voice. The results so far have
not been
too successful. I also wanted to include sync on data as well, that is
proving
more difficult. The worse the multipath the longer it takes to sync.

Unfortunately all this is on hold at the moment because I foolishly agreed
to
design a GPS tracking device for someone that operates at 458 Mhz
(it seemed a good idea at the time).

- Charles
> Charles Brain and/or others will be able
> to incorporate this in the HF-ALE and
> get good enough performance that we can
> do some real HF-ALE with follow on type work.

> I was reading Simon, et. al. "Intro. to TCM

You are currently subscribed to hfsig as: rwmcgwier@comcast.net

To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

10. [hfsig] RE: MS-188-110-A1 and TCM development (long & involved) <LYR27905-134835-2003.05.29-15.44.46--rwmcgwier#comcast.net@lists.tapr. org>

From: Eduardo Jacob <edu@kender.es>
Date: Fri, 30 May 2003 20:48:26 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-134988-2003.05.30-14.41.13--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As I know Peter doesn't monitor other this list I passed Bob's message to
him, and he has asked me to post his comments about it, reply if you want
to the list and I'll forward the message or best do a CC to him.

Regards

Eduardo/EA2BAJ

+++
Bob's comments about error-corrected QPSK take me back to my early
experiments in this area when PSK31 was just starting and the growing
band of fans were urging me to add some error-control "to make it even
better". My first intuitive thoughts were that error-correction wouldn't
necessarily be an improvement. Amateurs are not at all interested in
reducing the error-rate on a given path, but are pathologically
motivated to seek out the worst possible path at which you can just
about copy anything at all. All the textbook stuff on error-coding shows
you the SNR improvements to be gained with error-correction at
fair-to-good BERs, but when you look carefully in the bottom corner of
the graph where the SNR approaches zero, error-correcting schemes are
always worse than the uncoded case, all other things being equal (and
the noise being AWGN). My early tests on the bench confirmed that at the
level where you could just start to make sense of plain text, uncoded
BPSK always performed better than any coded scheme at the same traffic
speed. However, on-air tests showed quite clearly that there were real
situations, with fading channels, where coding gave useful results.

Bob is therefore right to say that my k=5 QPSK underperforms BPSK, but I
would modify that to "ANY error-coded scheme" will do so, and add "at
low SNR under AWGN". Under real fading HF paths one would expect
convolutional codes to show some gain, with gain increasing with longer
constraint-lengths. The k=5 code used in PSK31 does indeed show useful
gains when the path is not AWGN. I found k=3 wasn't so good and k=7 was
not worth the extra latency. I included both BPSK and QPSK in the
finished product because neither code was always better than the other.

It's therefore very surprising to see Bob suggesting that he has found a
k=3 code which outperforms my original k=5 code, and to see that he
claims it is 4.77dB better than the uncoded case under AWGN (although he
didn't say at what BER this applies). I am not familiar with Trellis
Code Modulation (to me the trellis is part of the decoder not the code),
but if Bob is right, this concept needs to be explored further and
subjected to some close scutiny. I just wonder if there's a catch in it
somewhere.

There IS an area where PSK31 fails, namely on the "over the pole" path,
but this has nothing to do with error-correction. Quite simply its too
narrow for such paths, or to put it another way, when PSK31 became the
narrowest amateur modulation system ever, we came up against the
fundamental narrowness-limit of the ionosphere for the first time. When
you step back and look at this problem at it's fundamental level, it
makes no sense to transmit narrower than the "widest" element of the
path, whether it was equipment limitations in the old days or whether
its polar Doppler spread now. We just have to accept that for these
paths we have to stay with wideband techniques, whatever error-control
technqiues we might use.

I mention this here because I suspect that the disturbances on such
paths may spread constellation points into arcs of circles rather than
into round Gaussian uncertainty patches, and this would impact severely
on the performance for any coding scheme, such as the 8-PSK which Bob
describes, where all the states are strung out around the edges of the

constellation circle. The transmit-receive frequency error introduces a
similar arc-shaped uncertainty which makes N-PSK increasingly difficult
as N increases.

73
Peter G3PLX
+++

--
Este mensaje ha sido analizado por MailScanner
en busca de virus y otros contenidos peligrosos,
y se considera que est□ limpio.

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

11. [hfsig] Re: MS-188-110-A1 and TCM development (not so long & involved) <LYR27905-134898-2003.05.30-02.43.00--rwmcgwier#comcast.net@lists.tapr.org>

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Fri, 30 May 2003 21:48:46 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-134994-2003.05.30-15.42.02--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert McGwier wrote:
> has better tracking performance than the RLS. The RLS,
> which is essentially a leaky Kalman filter, does indeed
> converge very rapidly on a stationary channel. The LMS
> in iterative forward backward mode, in my opinion, and in
> my experience, outperforms, the RLS on a dynamic channel
> such as HF.

Correct me if I'm wrong, but I thought the main difference
between RLS and Kalman was that the latter works on
non-stationary channels. (Which does not take us any
further, because implementing a Kalman on HF is difficult).

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

12. [hfsig] Re: MS-188-110-A1 and TCM development (not so long & involved)

From: Alexander Kurpiers <a.kurpiers@nt.tu-darmstadt.de>
Date: Fri, 30 May 2003 21:54:58 +0200
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-134995-2003.05.30-15.48.32--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles H. Brain wrote:
> O.K on the TCM modem, I started to implement an OFDM 8PSK modem
> using TCM and full tail biting for digital voice. The results so far have not been
> too successful. I also wanted to include sync on data as well, that is proving
> more difficult. The worse the multipath the longer it takes to sync.

What also is worth to look at is the multi-level coding as done in DRM.
For "simple" schemes like 8PSK it may not yet really be worth it, but if
the signal constellation gets even more dense it outperforms TCM with
moderate additional effort. (Actually you can think of TCM as a special
case of muli-level coding)

73' Alexander

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

13. [hfsig] Re: MS-188-110-A1 and TCM development (not so long & involved) <LYR27905-134898-2003.05.30-02.43.00--rwmcgwier#comcast.net@lists.tapr.org>

From: "Charles H. Brain" <chbrain@btinternet.com>
Date: Fri, 30 May 2003 21:12:58 +0100

To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-134997-2003.05.30-16.06.51--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Bob,

The sample rate is no problem. I sample at 48000 and then
decimate to the required rate in software.

As far as the 75 BPS is concerned it works very well however
my preamble detection code is somewhat weaker than the actual
modem so there is further work to do on that. I have problems
with false preamble detections occasionally.

Harris have extended the 75 BPS mode to produce slower
even more robust modes. The results they have published are
quite impressive.

Currently the modem in PC-ALE is hooked up to the Data Link
Layer. I will have to recompile my standalone modem program.
That is interoperable with a Harris modem when it is operating in
async mode (the mode where they send start stop and parity bits
in the data stream).

O.K on the LMS tap updates I believe you, my problem is
working out how to get LMS to update the taps fast enough
to follow the channel. With RLS is quite easy you only have to
run it once over each sample. I would be interested in your
iteration technique.

Yes I am saving up to buy one of those software defined radios.
I am waiting until I have accumulated enough money in my paypal
account from sales of some of my other software.

- Charles

----- Original Message -----
From: "Robert McGwier" <rwmcgwier@comcast.net>
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Sent: Friday, May 30, 2003 7:45 PM
Subject: [hfsig] Re: MS-188-110-A1 and TCM development (not so long & involved)
<LYR27905-134898-2003.05.30-02.43.00--rwmcgwier#comcast.net@lists.tapr.org>

> All of my code operates at 8 Khz for regular SSB radio work.
> If you are supply 9.6, I can resample since the first thing
> I do is approximately baseband and resampling to two samples
> per baud so the modem is running at 4800 samples per second.
> It would be simpler and faster to just do a decimation by
> 2 resampler (even though the code does not change). A well
> designed equalizer, making full use of the known data (probes),
> works like the rake. The difference is you in one you
> spend ticks looking for the right places to drop your tap
> and in the other you spend ticks dragging filter that has
> more taps than the rake. I find it to be a wash. Again,
> let me state for emphasis what I stated earlier. The
> adaptive LMS DFE, Least Mean Square, on an HF channel,
> has better tracking performance than the RLS. The RLS,
> which is essentially a leaky Kalman filter, does indeed
> converge very rapidly on a stationary channel. The LMS
> in iterative forward backward mode, in my opinion, and in
> my experience, outperforms, the RLS on a dynamic channel
> such as HF.
>
> I will be using AC5OG's software radio when I get to the
> place I would like to implement 110B. I would love to
> interoperate with you on the 75 bps mode. I cannot believe
> how solid it is. Latency is the penalty you have to pay
> however. I will let you know when I am ready to test if
> you will do likewise.
>
> Look forward to getting this stuff out and people complaining
> about pieces of the implementation so we can get this all
> working.
>
> The TCM I am talking about is 31.25 baud!

>
> Bob
>
>
>
>
> -----Original Message-----
> From: bounce-hfsig-27905@lists.tapr.org
> [mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Charles H. Brain
> Sent: Friday, May 30, 2003 2:50 AM
> To: TAPR HF Special Interest Group
> Subject: [hfsig] Re: MS-188-110-A1 and TCM development (not so long &
> involved)
>
>
> Hello Bob,
>
> As my name was mentioned I guess I should comment on your email.
>
> I am working on a new version of PC-ALE, the new version already
> contains a DFE 110A modem and Appendix B datalink layer. It should
> be pretty easy to drop in you modem as an alternative. I assume you need to
> sample at 9600?
>
> I hope to do some tests using 75 BPS and the datalink layer
> operating in broadcast mode. This is to look at some ideas on
> providing a robust data broadcast system. The robust modem uses
> a simplified RAKE receiving technique to combine the multipath
> components.
>
> Currently I am adding alternative quick call to PC-ALE. Eventually
> it will have a Mail Transfer Agent implemented so emails can be entered
> using Outlook Express or the like.
>
> O.K on the TCM modem, I started to implement an OFDM 8PSK modem
> using TCM and full tail biting for digital voice. The results so far have
> not been
> too successful. I also wanted to include sync on data as well, that is
> proving
> more difficult. The worse the multipath the longer it takes to sync.
>
> Unfortunately all this is on hold at the moment because I foolishly agreed
> to
> design a GPS tracking device for someone that operates at 458 Mhz
> (it seemed a good idea at the time).
>
> - Charles
> > Charles Brain and/or others will be able
> > to incorporate this in the HF-ALE and
> > get good enough performance that we can
> > do some real HF-ALE with follow on type work.
>
> > I was reading Simon, et. al. "Intro. to TCM
>
>
> ---
> You are currently subscribed to hfsig as: rwmcgwier@comcast.net
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>
>
>
>
> ---
> You are currently subscribed to hfsig as: chbrain@btinternet.com
> To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org
>

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

14. [hfsig] Re: MS-188-110-A1 and TCM development (not so long & involved)

From: "Charles H. Brain" <chbrain@btinternet.com>
Date: Fri, 30 May 2003 21:16:41 +0100
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-134999-2003.05.30-16.10.16--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> What also is worth to look at is the multi-level coding as done in DRM.

Yes that is worth a look. I have only implemented a very simple TCM code
at present. I noticed the Australians ended up using 256 state codes in their
modem. But that was some while ago.

- Charles

You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

15. [hfsig] RE: MS-188-110-A1 and TCM development (long & involved) <LYR27905-134835-2003.05.29-15.44.46--rwmcgwier#comcast.net@lists.tapr. org> <LYR27905-134988-2003.05.30-14.41.13--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Sat, 31 May 2003 01:11:56 -0400
To: "TAPR HF Special Interest Group" <hfsig@lists.tapr.org>
Message-ID: <LYR4070-135068-2003.05.31-01.08.43--lyris.hfsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Eduardo:

Thanks for passing along my comments to Peter and thanks for returning
his comments as well. The results I mentioned for this code,
gain over uncoded PSK with 8 state TCM-QPSK are those analyzed in
detail in the book I mentioned earlier. The arguments are pretty easy
to follow and I agree with their analysis. I agree with Peter's analysis
of the problem of over the poles and the problem of attempting to
use elements that are longer than the coherence time of the channel.
It will be interesting to see the results of my implementing this
code and testing it. The code will be readily available for anyone
to use. Let's keep our fingers crossed for the results.

Bob

-----Original Message-----
From: bounce-hfsig-27905@lists.tapr.org
[mailto:bounce-hfsig-27905@lists.tapr.org]On Behalf Of Eduardo Jacob
Sent: Friday, May 30, 2003 2:48 PM
To: TAPR HF Special Interest Group
Subject: [hfsig] RE: MS-188-110-A1 and TCM development (long & involved)
<LYR27905-134835-2003.05.29-15.44.46--rwmcgwier#comcast.net@lists.tapr.
org>

As I know Peter doesn't monitor other this list I passed Bob's message to
him, and he has asked me to post his comments about it, reply if you want
to the list and I'll forward the message or best do a CC to him.

        Regards

        Eduardo/EA2BAJ

+++
Bob's comments about error-corrected QPSK take me back to my early
experiments in this area when PSK31 was just starting and the growing
band of fans were urging me to add some error-control "to make it even
better". My first intuitive thoughts were that error-correction wouldn't
necessarily be an improvement. Amateurs are not at all interested in
reducing the error-rate on a given path, but are pathologically
motivated to seek out the worst possible path at which you can just
about copy anything at all. All the textbook stuff on error-coding shows
you the SNR improvements to be gained with error-correction at
fair-to-good BERs, but when you look carefully in the bottom corner of
the graph where the SNR approaches zero, error-correcting schemes are
always worse than the uncoded case, all other things being equal (and
the noise being AWGN). My early tests on the bench confirmed that at the
level where you could just start to make sense of plain text, uncoded
BPSK always performed better than any coded scheme at the same traffic
speed. However, on-air tests showed quite clearly that there were real
situations, with fading channels, where coding gave useful results.

Bob is therefore right to say that my k=5 QPSK underperforms BPSK, but I
would modify that to "ANY error-coded scheme" will do so, and add "at
low SNR under AWGN". Under real fading HF paths one would expect

convolutional codes to show some gain, with gain increasing with longer constraint-lengths. The k=5 code used in PSK31 does indeed show useful gains when the path is not AWGN. I found k=3 wasn't so good and k=7 was not worth the extra latency. I included both BPSK and QPSK in the finished product because neither code was always better than the other.

It's therefore very surprising to see Bob suggesting that he has found a k=3 code which outperforms my original k=5 code, and to see that he claims it is 4.77dB better than the uncoded case under AWGN (although he didn't say at what BER this applies). I am not familiar with Trellis Code Modulation (to me the trellis is part of the decoder not the code), but if Bob is right, this concept needs to be explored further and subjected to some close scutiny. I just wonder if there's a catch in it somewhere.

There IS an area where PSK31 fails, namely on the "over the pole" path, but this has nothing to do with error-correction. Quite simply its too narrow for such paths, or to put it another way, when PSK31 became the narrowest amateur modulation system ever, we came up against the fundamental narrowness-limit of the ionosphere for the first time. When you step back and look at this problem at it's fundamental level, it makes no sense to transmit narrower than the "widest" element of the path, whether it was equipment limitations in the old days or whether its polar Doppler spread now. We just have to accept that for these paths we have to stay with wideband techniques, whatever error-control technqiues we might use.

I mention this here because I suspect that the disturbances on such paths may spread constellation points into arcs of circles rather than into round Gaussian uncertainty patches, and this would impact severely on the performance for any coding scheme, such as the 8-PSK which Bob describes, where all the states are strung out around the edges of the constellation circle. The transmit-receive frequency error introduces a similar arc-shaped uncertainty which makes N-PSK increasingly difficult as N increases.

73
Peter G3PLX
+++

--
Este mensaje ha sido analizado por MailScanner
en busca de virus y otros contenidos peligrosos,
y se considera que esta limpio.

You are currently subscribed to hfsig as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org

---
You are currently subscribed to hfsig as: lyris.hfsig@tapr.org
To unsubscribe send a blank email to leave-hfsig-4070F@lists.tapr.org